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The Art of Dispensing.

THE *Chemist and Druggist* publishes a series of extracts from Dr. Herman Hager's latest edition of his work on "Technik der Pharmaceutischen Receptur," from which we copy the following practical notes:

WEIGHING FLUIDS.

In mixing fluids for a mixture, the rule must be observed to measure none, but to weigh each [this is the German custom.—ED. AM. DR.], and that the smallest quantity ordered should be put in the bottle first, then the next largest quantity, and so on. The reason is that the delicacy of the scales diminishes with the increased weight, and, besides, the medicines ordered in small quantities are generally the most powerful, and need to be dispensed with the greatest degree of accuracy. When so many drops of a fluid are ordered, it is usual to put the drops in first, so that, if a few drops too many fall, they can be returned. Fluids up to 1 gramme are generally dropped, and it is reckoned that, of the fatty and specifically heavy ethereal oils and of tinctures, 20 drops equal 1 gramme; of the other ethereal oils, chloroform, acetic ether, and spirit of ether, and aqueous fluids, 25 drops equal 1 gramme. Of ether, 50 drops equal 1 gramme. This calculation may not be quite accurate, but it accords with the Prussian medicinal tariff, and is what is understood by the prescribing physician.

[In measuring, instead of weighing, the smaller quantities and thinner fluids should invariably be measured first, or measured with a clean measuring glass. For example, to measure 1 drachm of dilute hydrocyanic acid, after measuring ½ ounce or more of glycerin or syrup of squill, is clearly courting error. Equally incorrect would it be to use a 4-ounce measuring glass, however correctly graduated, to measure any small quantity of a powerful remedy like the hydrocyanic acid.—*Ed. C. and D.*]

ORDER OF MIXING FLUIDS.

When fluids are to be mixed which decompose each other, or may form combinations, the order of mixing may have a considerable influence on the condition and appearance of the mixture. For example:

	Grammes
Solution of Sesquichloride of Iron	5.00
Mucilage of Acacia	25.00
Distilled Water	200.00

If the solution of gum be added to the iron solution, the two form a gelatinous mass, which will not make a clear solution with the water and cannot be mixed evenly with it. A clear yellow fluid is obtained, however, if the iron solution and the mucilage are each first diluted with 100.0 of the water and then mixed, or if the iron be first mixed with all the water, and the mucilage be added last.

When tannin fluids are to be mixed with metallic salts or alkaloids, both should be well diluted before combination.

Acetate of Lead	0.25
Tincture of Opium	2.0
Distilled Water	200.0
Simple Syrup	25.0

In this case the sugar of lead should be dissolved in 100 grammes of the water, and the tincture of opium diluted with the rest of the water and added to the solution. In this way a slightly cloudy mixture is obtained instead of a mixture with insoluble flakes floating in it.

Decoction of Irish Moss	250.0
Tincture of Opium	2.5
Syrup of Saffron	50.0

In compounding this, the tincture of opium should be first shaken up well with the syrup of saffron, and the carragheen mucilage added. If the latter is added to undiluted tincture of opium, flakes are formed which cannot afterwards be reduced by shaking.

When vegetable substances, wholly or partially soluble in water, especially such as contain tannin or like constituents, have to be mixed with metallic or earthy salts, the rule is that both the vegetable and the salt should be first dissolved in a large portion of the water and mixed. If a precipitate is formed it is then easily diffused by shaking. Example:—

Extract of Rhatany	20.0
Alum	10.0
Infusion of Sage	200.0
Purified Honey	50.0

For a gargle.

The honey should be first dissolved in the infusion, and the extract dissolved in one-half and the alum in the other half of the fluid.

[To these excellent remarks of Dr. Hager we think three others might well be added, namely:—First, that where either syrup, glycerin, honey, or mucilage is ordered along with fluids which decompose each other or which produce unsightly combinations, it is highly probable the prescriber has foreseen and anticipated this result, and has added this particular ingredient to avoid or mitigate the evil. Glycerin has in many cases a powerful influence in preventing decompositions as well as in preventing depositions, syrup less so, while honey and mucilage are favorable to fine division and suspension of insoluble salts and organic matter. The second remark (and this applies to the resinous solutions and extracts below) is, that where any decomposition takes place producing unsightly mixtures, or where a homogeneous mixture generally is desired, a much better result will be obtained by using the mortar and pestle, as in the production of an emulsion, than by agitating the ingredients in a bottle. The last remark is, that in no case should liberties be permitted in the shape of additions to or subtractions from prescriptions, with a view to producing what is called elegant pharmacy. Cases where such expedients are necessary are very rare, and even in these the error is generally obviously due to the neglect or oversight of the prescriber, and is so apparent that the dispenser cannot possibly have any difficulty in the matter.—*Ed. Chem. and Drug.*]

RESINOUS SOLUTIONS AND WATER.

When resinous solutions in alcohol have to be mixed with water, as is frequently the case, the combination is easy if syrup is also ordered. Syrups have the property of forming homogeneous mixtures with most of the alcoholic solutions of resins, and in some cases they yield clear mixtures. If no syrup is ordered the rule is to add the resinous tincture to water, as a more easily-suspended mixture is thereby obtained. In no case should the water or the aqueous vehicle be other than quite cold. A warm or hot fluid will cause the resinous particles to form lumps, which will either attach themselves to the sides of the bottle or float about in the mixture.

The alcoholic resinous tinctures occasionally ordered to be added to aqueous mixtures are the tinctures of amber, of benzoin, of castor, of Indian hemp, of colocynth, of cubebs, of guaiacum, of jalap, of hops, of nutmegs, and of myrrh. If, notwithstanding all precautions, the resin separates in unpleasant-looking particles, these must be collected on a previously damped strainer and rubbed down in a mortar with a little powdered gum arabic and a few drops of water. One mixture of an alcoholic solution of a resin with water may be mentioned as a useful cosmetic, making a perfectly suspended milky compound. It is known as *Lac Virginis*, and is composed of—

Tincture of Benzoin	10.0
Rose Water	150.0

A teaspoonful to be added to the water used for washing.

EXTRACTS IN MIXTURES.

When alcoholic extracts have to be dissolved in a mixture, the vehicle in which they are rubbed down into solution should not be hot.

Lactucarium ought to be rubbed down in a mortar with twice its weight of sugar and a few drops of spirits of wine.

If purely resinous extracts have to be compounded in a mixture they should first be rubbed in a mortar with twice or three times their weight of powdered gum arabic, then combined with the vehicle perfectly cold. If any syrup is ordered in the mixture the resinous extract should be rubbed down with that.

Muriate of Ammonia	5.0
Extract of Licorice	5.0
Distilled Water	100.0
Ethereal Ex. of Wormseed	1.5

The extract should be first rubbed with powdered gum arabic 1.5, and with the muriate of ammonia, then with the licorice in concentrated solution, and, lastly, with the cold water.

Extracts made with water and alcohol are difficult to mix with a purely spirituous solution.

Extract of Hyoscyamus	1.0
Tincture of Valerian	5.0
Ethereal Spirit	20.0

In this prescription, the ethereal spirit being only an adjuvant, a slight modification must be made. The extract must be dissolved in 2 parts of distilled water, then the tincture of valerian, and 18 (instead of 20) parts of spirit of ether added. In the case where the fluid with which the extract is to be mixed is itself a strong medicine (ethereal tincture of digitalis for example) nothing remains but to rub it with its own weight of water, and then rub the partial solution vigorously with the tincture.

Inspissated juices are similarly treated; but, when dissolved in water, they should stand in a measure for two or three minutes to settle, and the fluid poured off carefully from the sediment.

The narcotic non-resinous extracts can be kept in concentrated solutions. Ten parts of extract should be dissolved in a mixture of 12 parts of water, 4 parts of glycerin, and 4 parts of spirits of wine. When dispensing from these solutions, three times the quantity of extract ordered must be weighed. The label should indicate this exactly. Some extracts, such as aconite, henbane, and belladonna in solution, will require well shaking before weighing.

Refined licorice-juice can be kept in solution in its own weight of distilled water, or in a mixture of 3 parts of distilled water and 1 part of glycerin, in moderate-sized bottles quite full. Some acids and many salts of alkaloids can only be mixed with solution of licorice in very diluted condition, as they precipitate the glycyrrhizin and cause a very disagreeable appearance. Mixtures of quinine and licorice-juice will be treated of subsequently.

Extract of opium forms peculiar flakes with the mucilage of carragheen, althæa, and salep, but it can be mixed with them if first rubbed down with syrup, or dissolved in 50 times its weight of water. Acetate of lead is sometimes ordered in such a mixture, and this also should be dissolved in 50 times its weight of water before being added.

SALTS IN MIXTURES.

Some very soluble salts, such as acetate of potash, iodide of potassium, muriate of ammonia, etc., can be added direct to a mixture, either in powder or in the form of small crystals. Others more difficult of solution, such as sulphate of soda or magnesia, phosphate of soda or potash, tartrate of soda, etc., are more easily dissolved in hot liquids. When decoctions are ordered, the salts can be readily dissolved in them, but the dispenser must ascertain from a solubility table whether the quantity ordered is more than will remain dissolved in the cold solution, as in that case the salts will crystallize out. It is proper then to add the salt in fine powder to the cold mixture. This applies especially to cream of tartar and to sulphate of potash.

Borotartrate of potash (soluble cream of tartar) should always be added to the aqueous menstruum. If water is poured on this salt in a bottle its particles cleave together and form a thick mass, which can only be afterwards separated and dissolved with great difficulty.

Carbonate of ammonia must always be dissolved in cold water; and, besides, the mixture when completed should be allowed to stand in the uncorked bottle for half an hour or an hour to allow for the usual development and escape of carbonic acid gas. Acids with the carbonate of ammonia, of course, make the development of gas more rapid, as do also gum arabic or mucilage thereof. Such a mixtue should be warmed to about 25° C. (77° F.) before sending out.

Nitrate of silver in solution should be sent out in dark-glass bottles. It must always be dissolved in distilled water.

Nearly all salts dissolve to a greater extent in warm than in cold water. Burnt lime is an exception, and chloride of sodium is more soluble at freezing point than at ordinary temperature. Sometimes the temperature makes an appreciable difference in the solubility of salts in a mixture. For example, 100 parts of water will dissolve 35 to 40 parts of crystallized sulphate of soda in summer, while in cold winter nights water will not hold more than about 25 per cent in solution. The advice should be given, where necessary, to keep the mixture in a warm place.

Chloral hydrate should always be dissolved in cold water, warm water occasions a slight decomposition with formation of a little hydrochloric acid.

A solution of muriate of morphia, if made at a temperature above 40° C. (104° F.), will turn yellowish in contact with the air.

Many salts are more soluble if several are dissolved in the same vehicle, or if there is some acid present. Sulphate of potash, for instance, is more soluble in a solution of sulphate of magnesia than in pure water. In such cases double salts are formed, which are more soluble than the single ones, or a new and more soluble salt is formed. In the following mixture the acid makes the sulphate of magnesia dissolve in a smaller proportion of water than would otherwise be required.

Sulphate of magnesia	75.0
Dilute sulphuric acid	5.0
Distilled water	75.0
Syrup of raspberries	25.0

With sulphate of soda the case is similar.

[This mixture, without the raspberry syrup, corresponds very closely to what is known popularly in many districts as "Henry's solution of salts," and attention is directed to the fact of the greater solubility of the sulphate of magnesia in presence of free acid, as a probable explanation of the fact that this well-known preparation varies considerably in strength, a saturated solution in plain water being a very different thing to a saturated solution in water plus the free acid.—*Ed. Chem. and Drug.*]

When salts are to be dissolved in spirit of wine or in any alcoholic fluid, they should always be rubbed in a mortar. Chlorate and permanganate of potash should always be rubbed down in a mortar. [Care being taken that they are not rubbed with any organic or combustible substance.—ED. A. D.]

When by mixing salts a precipitate is likely to be occasioned, these should be added to each other in as diluted a condition as possible, as the precipitate is thereby more finely divided.

Great care should be observed when salts of powerful alkaloids are ordered in mixtures with substances such as tannin or licorice, which are likely to precipitate them. If they cannot be dispensed so that the mixture is safe, the attention of the prescriber should be directed to the fact.

It is advisable where there is much dispensing to keep in ready solution such salts as will keep for some time in solution without decomposition. Such solutions should be prepared with very clean distilled water. Among these may be named the following:

Muriate of ammonia,	1 p. to 4 of w.
Nit. of potash	1 p. to 4 of w.
Sulph. of magnesia,	1 p. to 2 of w.
Sulph. of soda	1 p. to 4 of w.
Brom. of potass.	1 p. to 2 of w.
Acetate of "	1 p. to 2 of w.

These solutions should be prepared with great exactness and filtered. They must be labelled to show how much is to be used in proportion to the quantity ordered. Except to a moderate extent, such solutions cannot be used when an aromatic water is ordered as the menstruum.

[In most pharmacies, we presume, solutions of the more common salts will always be kept ready for dispensing purposes. Such a practice is not only convenient for dispensing, but it admits also of much more elegant and permanent results. For example, there are few salts which, when converted into solution, are not the better for being filtered. No matter how clear or bright their solutions may appear at first, they will both look better and keep better if filtered. This is probably owing to the fact that crystallization is favored by the presence of minute impurities, which form nuclei round which the crystals form. Many of these nuclei or impurities are doubtless kept back by filtration, and consequently the solution is brighter and keeps better. In English pharmacies, with our system of measuring liquids, the solution should be made to contain, and of course should be so labelled, 1 part in 2, or 1 part in 4, or 1 part in 8, as the case may be. That is to say, 1 part of the salt is taken by weight, and water added to make 2 or 4 or 8 parts by measure. This will be found to facilitate calculation. One ounce of sulphate of magnesia, for example, will dissolve in 1 oz. of water. This is 1 part to 1 of water, but the finished product gives only about 1 part of the salt in 1.53 of solution. Now, let any one try to measure out of this solution 1½ or 2½ drachms of sulphate of magnesia, and the difficulty is at once apparent. On the other hand, if the solution is made 1 *in* 2 no calculation is required, as double the quantity of solution to the salt ordered involves no mental effort.—*Ed. Chem. and Drug.*]

In some pharmacies tartrate of potash and iodide of potassium are kept in solution dissolved in their own weight of water. But such solutions do not keep well. If they are employed, only so much should be made as will keep for eight or ten days in a dark place, and only dispensed if they are quite clear and colorless. Potassio-tartrate of antimony (1 in 49 parts of water) is also sometimes kept in solution, but this too spoils in a short time. It keeps much better with an addition of 20 per cent of glycerin.

[In many instances concentrated solutions keep much better than weaker solutions. Quinine and iron citrate is a notable example, a solution of 1 part in 2 keeping for weeks, while a weaker solution quickly gets bad.—*Ed. Chem. and Drug.*]

Sulphate of quinine (5 parts dissolved in 90 parts of distilled water with 5 parts of diluted sulphuric acid) is sometimes kept in solution. This, however, appears to deteriorate by keeping, the flakes which occur being formed at the expense of the quinine. Strictly speaking, when no acid is ordered in a prescription to dissolve the quinine, the latter should be rubbed down with the water; but it has become the custom in such cases to add to the sulphate an equal quantity of dilute sulphuric acid to effect solution unless instructions to the contrary are added. When licorice juice is to be combined with quinine, the former should be first dissolved in ten times its weight of water and the solution of quinine added, as both the alkaloid and the acid tend to decompose the licorice. If the vehicle does not admit of this solution, the quinine, with a little acid (preferably hydrochloric), must be rubbed down in a mortar with the licorice and the vehicle added little by little.

Iodine dissolves but slightly in water, but iodide of potassium will make three-fourths of its own weight soluble.

Ammonia salts also increase its solubility. If neither of these are in the mixture, the iodine should be triturated with twice its weight of sugar, which helps to suspend it. Oils of peppermint and fennel, and some other volatile oils, combine chemically with iodine.

Sugar dissolves easily in water, but does not immediately yield a clear solution. In its place simple syrup, in the proper proportion, may be used.

Manna can be dissolved in water by the aid of heat. It should be cleared by decantation and straining.

Gum arabic is best used in the form of mucilage, in proper proportion. Care should be taken not to employ gum Senegal in its place, as the latter has an unpleasant taste and smell, and acts chemically with metallic salts.

[Care should be taken that the mucilage is fresh. It quickly sours, and we have seen curious and often puzzling complications from this cause.—*Ed. Chem. and Drug.*]

Tannic acid will easily dissolve in pure water, yielding a solution with a light-yellow shade. The water must be quite free from ammonia, or the solution gradually darkens to a brownish tint. With traces of iron it turns inky, and alkaline substances also turn it thick and brown to black. With mucilages of carragheen, salep, althæa, etc., it forms flaky conglomerates, and should only be mixed with

them after dilution with twenty times its weight of water.

Chloral hydrate cannot be kept long in watery solution, as it decomposes and becomes acid. If required to be filtered, a solution of chloral should be strained through spun glass.

Jequirity and its Active Principle.*

ACCORDING to a note in the *British Medical Journal* (March 8th, p. 476), Dr. E. Klein has recently investigated the bacillus of jequirity, and finds that the bacillus is, of itself, quite incapable of producing ophthalmia, and further, that the pus from a case of ophthalmia contained no trace of the bacillus. He found also that the infusion of jequirity could be rendered incapable of producing ophthalmia by boiling for a time, insufficient to destroy the bacilli, and that the bacilli, when cultivated in peptone solution or jequirity infusion previously sterilized by boiling for half an hour, possessed no power of producing ophthalmia. The active principle of the jequirity appears, therefore, to resemble, to some extent, in its vital properties, the pepsin ferment, in that it is easily destroyed by heat. This statement is confirmed Mr. Arthur Benson, in a subsequent number of the same journal (p. 564), in which it is stated that he has found that ophthalmia could be produced by the freshly powdered seeds, by the freshly made infusion, by the infusion after bacilli had appeared in it, by the infusion six weeks' old, swarming with various micro-organisms, and by the infusion after the bacilli had ceased all motion and had sunk to the bottom of the liquid apparently dead. He had examined, at all stages of the disease, the discharges and membranes from eyes affected with jequirity ophthalmia without ever seeing the typical bacillus. A one in ten thousand solution of corrosive sublimate prevented bacilli from forming, but did not destroy the power of the infusion to produce ophthalmia.—*Pharm. Journ.*

From another source (*The Weekly Medical Review*, April 5th), we learn that the same question has been investigated by Dr. Neisser, of Breslau, who arrived at the same results. And further, Dr. C. J. Salomonsen and M. Dirckinck-Holmfeld, of Copenhagen, who likewise examined the question, not only coincide with the above-named observes, but they have succeeded, at least partly, in isolating the active principle.

They found that the active principle was insoluble in alcohol, chloroform, benzoin and ether; that it was comparatively slightly soluble in water, but very soluble in glycerin.

They were unable to extract any alkaloid, and expected the presence of an amorphous ferment. To establish this point, the jequirity seeds having been ground up, the powder was treated with 10 times its weight of pure glycerin, rubbed up well, and allowed to stand for twenty-four hours, filtered and then precipated with 5 times its volume of alcohol. This precipitate was again treated with the necessary means for purification, and the result, dissolved in both water and glycerin, gave the characteristic jequirity inflammation.

The smallness of the amount of the active principle necessary to produce the inflammation is very striking. The glycerin solution which corresponded to the one-hundred-thousandth part of a gramme [of the seed], developed the characteristic inflammation, but one-half of this quantity produced no effect.

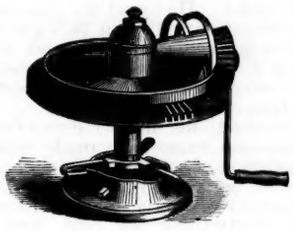
The results may, therefore, be summed up as follows:

1. The jequirity inflammation is *not* the result of bacteria.

2. It is the result of an active principle in the seed, soluble in both water and glycerin, but insoluble in alcohol, chloroform, ether and benzin; and destroyed by a temperature between 65° and 70° C., if kept up for one hour.

3. The quantity of active principle contained in the $\frac{1}{100000}$ gramme of jequirity seed develops a well-marked conjunctivitis. The poison, when injected hypodermically in mice or frogs, quickly kills.

* Compare NEW REMEDIES, 1883, June. See also below, page 105.



A NEW PAN-MILL.

FELLOWS & BATES (Limited), of Manchester, England, are the makers of a new pan-mill suitable for mixing ointments, pastes, putty, etc., and for grinding chalk, whiting, chrome, etc. The adjoining figure shows its general arrangement, and it will be noticed that the pan, as well as the grinding cylinder, revolves. The pressure with which the pan and roller come in contact is regulated by the three springs at the base of the sleeve which supports the pan. The price of the mill adapted for hand power only is £1 18.0.

SHARPENING CORK-BORERS.

A HANDY tool for sharpening cork-borers has been devised by Julius Schober of Berlin. It consists of a brass cone fastened into a wooden handle. The cone is split into two halves by a slit of a few millimetres in width, inside of which is a steel-blade hinged below. The cork borer having been placed over the cone, while the steel blade is in the position shown by the cut, a gentle pressure is exerted upon the blade and the cork-borer (or the sharpening tool) revolved whereby the edge of the borer will become sharp.—*Chem. Centralbl.*, 1884, No. 1.

Peroxide of Hydrogen as an Antiseptic.

PEROXIDE of hydrogen is recommended in the March number of the *Practitioner* (p. 197) as a local antiseptic and astringent. The advantages which are claimed for it are that, besides being a powerful antiseptic, it is colorless, odorless, cleansing and stimulating, does not stain or corrode, destroys pus, causes no pain in its application, and is not poisonous. In purulent ophthalmia, otorrhœa, gonorrhœa, leucorrhœa, ozæna, and stomatitis it has been found useful, and in all forms of ulcer, especially if of syphilitic origin, it exerts a healing effect. Dr. Shelly points out that if a few drops of the ordinary 10-percent solution be brought in contact with pus, a brisk effervescence at once commences and continues until all the pus is completely destroyed, and a stimulant action on the wound takes place, followed by healthy repair. He suggests its use as a topical application in membranous diphtheria.—*Pharm. Journ.*, March 20th.

Criticisms from a Chemical Point of View on Some Favorite Prescriptions.*

BY HENRY LEFFMANN, M.D.

THE few points that I present to the College this evening will include little that is absolutely new, but I think the time will not be entirely wasted, as I know that the prescription list of most of our drug stores will give numerous examples of the violation of chemical principles here mentioned. My attention was called to this topic by my being shown by an apothecary a prescription calling for

Syr. hypophosph.,
Tinct. ferri chlor.,
Acid. phosph. dil.,

concerning which he said that, in the proportions ordered, he could never make the mixture up clear. I examined the precipitate, and found in it, as I had expected, a large proportion of the iron and other basic ingredients. This is a simple case of incompatibility. Turning the matter over in my mind, it has seemed to me that, while some attention is paid to cautioning students as to the general nature of incompatibility, very little or none is given, especially in the shallow chemical teaching of many medical schools, to the properties and qualities of chemical substances in their relations to the animal tissues, and the manner of administration. I present here, therefore, a brief consideration of a few well-known remedies.

Under the name of *colorless tincture of iodine*, several preparations are used, depending for their popularity on the fact that they do not stain the skin. They are prepared either by the use of ammonia, or of sodium sulphite, or hyposulphite. They owe their particular property, or rather absence of property, to the neutralization of the iodine, and just to the extent that the iodine is decolorized is it to the same extent deprived of virtue. The free active affinity of the iodine, to which its local action must be due, is destroyed in these preparations, and the destruction is not slow or uncertain, but, in two of the methods mentioned, it is sufficiently rapid and definite to be made the basis of a method of quantitative analysis. It is certainly difficult to see how any person could go so wide of simple chemical principles as to invent or employ this mixture.

Potassium chlorate, or as it is still erroneously called by many, chlorate of potash, is a remedy concerning which extraordinary claims have been made, based upon most erroneous notions of its chemical qualities. It is employed in the laboratory as a source of oxygen; knowledge of this fact has led to its employment as an oxidizing agent in diseases which have been supposed to express deficient oxidation. I have nothing to say here as to the clinical results obtained from potassium chlorate in any disease—although it is much less in favor than formerly—but I enter a protest against any advocacy of its usefulness as an oxidizing agent. Under temperatures and conditions, such as that which it meets in the human system, it is one of the most stable of bodies, does not part with its oxygen or chlorine, and, indeed, will not begin to do so except under very high heat. I have found by actual experiment that ten grains of the salt kept for two hours at a temperature of 100° Fahr., in contact with an artificial gastric juice, did not develop oxidizing qualities sufficient to oxidize one-sixtieth of a grain of phosphorus. This experiment is merely confirmatory of what every-day experience with the substance teaches.

Potassium permanganate has been more or less in favor with physicians

* Read before the College of Physicians of Philadelphia, April 2d, 1884.

for a score of years. It is well known as an oxidizing agent; its powers in this respect are well marked. It is as little suitable for internal administration for such purpose as the body just considered, but for an opposite reason. Its chemical properties are developed by almost every substance, and in the doses in which it is given, it will be decomposed and rendered inert very shortly after being swallowed. Within a very recent period the salt has come into notice as a remedy for amenorrhœa, and great has been the tribulation of apothecaries. It has been given in pill form, and all the usual excipients have been unavailable. I have made a few tests of the permanganate pills now in the market, and I find in regard to those made by one of the most reliable houses in this city that the permanganate is all decomposed and converted into the insoluble manganese dioxide. The preparations of two other manufacturers made up with some mineral excipient, probably kaolin, were in good condition, but as soon as placed in a mixture of hydrochloric acid and pepsin, they begin to decompose into insoluble manganese oxide. These pills vary in strength from one-eighth to one grain. This small quantity of permanganate certainly must soon decompose in the stomach, and the only virtue which it can have is from the manganese itself, and if this is effective, common sense would seem to suggest that the result could be best obtained by exhibiting some definite compound of manganese, such as the chloride or sulphate. When we consider the chemical relations of the salt and almost certain inertness of it in small doses, the gravity with which the learned English therapeutists, who recommended it in amenorrhœa, have discussed the possibility of its producing abortion, becomes almost burlesque.

I do not desire, of course, to impugn the clinical observations that have been recorded on this point, but I feel obliged to say that, if the insoluble and variable decomposition products of one eighth of a grain of potassium permanganate can affect the function of any one organ, then the difference between us and the apostles of the infinitesimal is small indeed.

I cannot dismiss these two compounds, which owe their popularity to mistaken notions of their properties, without saying a word or two as to the exhibition of oxidizing agents. If rational therapeutics or physiological study indicates remedies of the so-called oxidizing class, then it will be found that no be'ter agents are known to us than those which have long been in our hands. In nitric acid, nitro-muriatic acid, and chlorinated soda, we have substances which are sufficiently stable to resist the organic bodies of the saliva and gastric juice, and are sufficiently active to give oxidizing effects if such can be obtained other than local action. I have grave doubts whether the nutritious fluids of the body can be oxidized by any method, but there can be no doubt whatever that such effect cannot be obtained by either a body—potassium chlorate—which yields its oxygen only at a red heat, nor by one—permanganate—that decomposes the moment it touches any form of organic matter. Some years since a correspondent in one of our medical journals gravely recommended the use of raspberry syrup to disguise the taste of potassium permanganate. It was, of course, entirely successful, the taste was destroyed, so was the compound.

Caffeine citrate is a remedy much in favor, and is a remarkable instance of how much physicians take for granted in the remedies they use. There is no caffeine citrate in the market, and it is doubtful whether any such salt can be prepared. The commercial preparations are either pure caffeine or variable mixtures of it with citric acid.

The manufacturers in this city each furnish a different article, except in cases in which they buy from a common source; and a house in a neighboring city furnishes an article which contains no citric acid. Some of the samples are purely bitter in taste, while others are distinctly sour. Analysis of some of the commercial salts are recorded in a paper read before the last meeting of the American Pharmaceutical Association by Dr. G. C. Wheeler. He found the quantities of caffeine varied from 96.5 per cent to 63.5 per cent; of citric acid, from 63.5 to 3.5 per cent; none of these figures correspond with the proportion of a true citrate.

It seems to me that accurate clinical observation cannot be made with a preparation of so uncertain a character; for, as seen by these figures, the proportion of active ingredients may vary thirty-three per cent, and the lesson that these analyses teach us is that, when the effects of caffeine are wanted, they are best obtained by the use of the pure alkaloid, and not by a pretended and uncertain compound of it.—*Maryland Med. Journ.*

On False Japanese Isinglass.

THE following is taken from Prof. Dymock's work: "The Vegetable Materia Medica of Western India:"

ALGÆ.

Lawrencia papillosa, Grev., etc., }
Gelidium corneum, Lamour, }
The dried jelly (Gelose).

Vernacular.—Chinai-ghás (Bomb.).

History, Uses, etc.—This substance, called Yang-tsai by the Chinese and known in Europe as Mousse de Chine, and *Japanese Isinglass*, is a regular article of commerce in Bombay, where it is valued on account of its supposed strengthening properties. Hanbury, (*Pharm. Journ.* [ii.], vol. i., p. 508), gives the following account of it:—"Under the incorrect name of Japanese isinglass, there has been lately imported into London from Japan a quantity of a substance having the form of compressed, irregularly four-sided sticks, apparently composed of shrivelled, semi-transparent, yellowish-white membranes; they are eleven inches long, by from one to one-half inches broad, full of cavities. Very light (each weighing about three drachms), rather flexible but easily broken, and devoid of taste and smell. Treated with cold water, a stick increases greatly in volume, becoming a quadrangular, spongy bar with somewhat concave sides one and a half inches wide."

The term Chinai-ghas is loosely applied in Bombay to three substances, viz., Japanese isinglass, edible birds'-nests, and Ceylon moss (Gracilaria lichenoides and G. confervoides, Grev.).

Note.—This substance has attracted considerable attention in France. It was exhibited at the Paris Exhibition of 1878 under the name of *Thao*. The following particulars from the catalogue may prove interesting. Various trials have been made with it in France since 1874, especially by MM. D. Gantillon & Co., at Lyons, and the Industrial Society at Rouen. The thao is prepared for use in the following way:—After having been soaked in cold water for about twelve hours, it is boiled for a quarter of an hour, during which it absorbs about one hundred times its weight of water. If allowed to cool it becomes a jelly, but if passed through a sieve and stirred until cold, it remains fluid, and in this state is more easily employed than when hot. The yellowish matter which some specimens contain can be removed by boiling for some time, when it forms an insoluble scum, which appears to consist of very thin fibres, and which remain attached to the sides of the vessel.

A singular property, and one which perhaps might be turned to valuable account is, that thao jelly does not decompose solution of permanganate of potassium even when left in contact with it for twenty-four hours.

According to M. Heilmann, of Rouen, thao produces in the proportion of one part to one hundred of water, a dressing which is supple and strong, and which gives substance rather than stiffness to calico, while dextrin, like starch, makes the tissue drier and harder, and gives less facing to the thread. The addition of glycerin gives a dressing still more flexible and soft, and while rendering the tissues less stiff, it communicates more body to them.

The addition of talc gives still greater smoothness. Once dissolved, according to M. Gantillon, thao will mix while hot with any gum, starch, dextrin or gelatin. The principal advantage of thao in dressing silk fabrics is that while preserving their suppleness, it gives them greater glossiness and makes them soft to the touch. The mixture of thao with gum tragacanth is said to be the best method of using it. Thao should, however, be used alone for materials which it is not necessary should be stiffened. As thao is only soluble at a high temperature, a moist atmosphere, fog, or even rain, does not affect the material dressed with it. It combines well with sulphate of copper and the chlorides of aniline and potassium, and can be used in double dyeing. It also answers well for sizing paper, etc. The only obstacle to its extensive use is its high price. There is, however, no reason why a similar substance should not be made from our common native seaweeds, of which Gelidium carneum and Gracilaria confervoides approach most nearly in character the algæ from which thao is made. Gelose, of which thao consists, differs from the carragheenin obtained from Chondrus crispus in its power of combinining with a very large quantity of water to form a jelly; it yields ten times as much jelly as an equal weight of isinglass. For purposes of food, thao jelly is not quite so pleasant as animal jelly, as it does not melt in the mouth; it also contains no nitrogen. A great advantage which it possesses is, that it is but little prone to undergo change, so much so that the jelly is sometimes imported from Singapore, sweetened, flavored, and ready for use, and may in this state be kept for years without deterioration. The west coast of Australia also yields a seaweed possessing similar properties.

New Process of preparing Barium Permanganate.

ACCORDING to G. Rousseau and B. Bruneau, 300 C.c. of hydrofluosilicic acid of 30° B. are added to a cold saturated solution of potassium permanganate (100 Gms. in 1,500 to 1,600 Gms. water). The mixture is allowed to stand for some time, then filtered through asbestos, and then neutralized by milk of baryta in quantity sufficient to about neutralize the amount of hydrofluosilicic acid originally used. Barium carbonate will not serve here, as it will precipitate the whole of the manganese as hydrated peroxide. The solution is allowed to settle, decanted and evaporated. By redissolving and again evaporating, a pure product is obtained.—*Bul. Soc. Chim.* and *Journ. Am. Ch. Soc.*

[Barium permanganate may be used as a starting point to prepare the permanganates of other bases which have a soluble sulphate.—ED. A. D.]

Eucalyptus Oil and Eucalyptol.

THE demand for eucalyptus oil and eucalyptol based on the reputation of the products obtained from the leaves of Eucalyptus globulus, has brought into commerce oils obtained from other species which are said not to possess the same medicinal properties. However this may be, as there is a difference in their money value, it may be usef ul to quote from Messrs. E. Merck's circular the characters in which an oil that appears to be known in the the German market as "Oleum Eucalypti australe" differs from the genuine product from E. globulus leaves. The genuine oil has a weak dextrorotatory action, forms a clear solution in 90 per cent alcohol in all proportions, does not puff when treated with iodine, turns yellowish in contact with sodium, and has a specific gravity of from 0.900 to 0.925, according as it is distilled from old or fresh leaves. The "australe" oil is strongly lævo-rotatory, only slightly soluble in 90 per cent alcohol, puffs with iodine, is colored red on standing with sodium, and has a specific gravity not higher than 0.860 to 0.870. The characters for E. globulus oil answer far eucalyptol. The "eucalyptol puriss." has a boiling point between 170° and 173° C., a specific gravity of 0.910 to 0.920 at 15° C., and is as clear as water.—*Pharm. Journ.*, March 20th.

Tapioca.

ALL pharmacists are familiar with the appearance and large granular masses of tapioca. The late Dr. Seeman was of opinion that its peculiar lumpy form was due to the action of a peculiar kind of wood used in the preparation of the starch. Mr. James Collins, to whom this was mentioned, thought the explanation rather unlikely, and believed the agglomeration and alteration was owing to the starch being partially changed into dextrin. While in the East, he tried to clear up the matter, and at first with little success. He witnessed part of the process of preparing gambier and sago. In both cases, wooden and iron stirrers were employed; the first were of different kinds, no particular preference being given to any one sort, and the latter were most esteemed.

In Malacca, he saw the whole process relating to tapioca, from the fresh root to the finished product, as packed for market. Arriving at the manufactory, there were driving bands above the visitors' heads, streams of water flowing in every direction, glowing fires, and a hive of very scantily-clad Chinese. Droves of these coolies came from the fields, with baskets slung on poles filled with fresh root-stocks. These were washed in tubs in a constant stream of water, and then peeled like turnips. Next, they were sliced in one machine and pulped in another. The pulp was removed in cane baskets to strainers, large wooden frames, with calico bottoms. Above these, tanks giving off a powerful stream of water impinged upon the pulp, a sifting motion being communicated to the strainer. As the starch became washed out, it was received into inclined troughs, and, whilst in a state of suspension run into settling-vats.

There it was stirred and washed, and, while moist, it was removed to the drying-room.

Two kinds of tapioca are prepared. The flour is made by heating slightly by fires placed underneath; it is constantly stirred, and turned over with iron shovels, to prevent agglutination, and insure equal drying.

Granular tapioca is made as follows: A long range of quallies, or small iron shallow pans, are slightly tilted forward on ledges of brickwork, and heated with a wood fire. Each operator has a quallie and fire to himself. Taking a quantity of damp starch, he stirs it round and round with an iron shovel, and the heat is sufficient to cause the tapioca to become agglutinated together in small masses, and coated with dextrin. This was done with great skill, and with an open fire. On further inquiry, Mr. Collins found that wooden stirrers were never used but from motives of economy when iron could not be afforded.—*Chem. and Drugg.*

Fraudulent Cubebs.

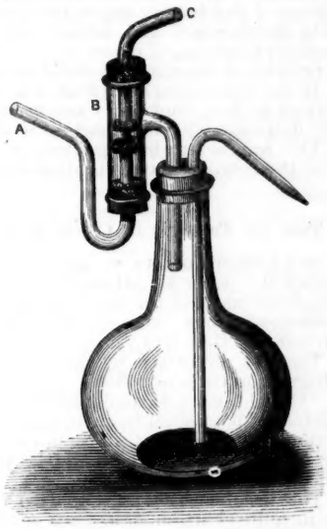
In a parcel of nineteen bags of cubebs consigned to Messrs. J. Domerque & Co., of New York, five were found to contain genuine cubebs mixed with other berries, while fourteen bags were wholly composed of false berries. These were seized by the Government, and henceforth a close inspection of cubebs, when imported, will be the result.

Commercial Treatment of Balsam of Peru.

WHEN balsam of Peru arrives at Acajutla and La Libertad, the ports on the "balsam coasts," from which it is chiefly shipped, it is in a crude state, usually of a gray green to a dirty yellow color, and requires to be submitted to a process of purification before it is fit for exportation. Concerning this process a correspondent of Messrs. Gehe & Co. furnishes some interesting information. He states that a first clarification is effected by allowing the crude balsam to stand in a large iron vessel capable of holding six or seven hundred pounds during a week or a fortnight, by which time the heavier impurities sink to the bottom and the lighter ones float as a scum on the surface. The clear balsam, which has already attained its characteristic black-brown color, is then drawn off through a tap fixed about four inches from the bottom of the vessel and run into a tinned iron boiler set over an open fire and boiled moderately for two or three hours. All scum is removed as it makes its appearance, and the boiling is continued as long as any continues to be formed. It can easily be understood that the physical properties of the balsam will differ according to the temperature to which it is submitted during this boiling, and it is alleged that the lower specific gravity observed in balsam of Peru during recent years is attributable to a modification it undergoes in this operation, and is quite consistent with the genuineness of a given sample.—*Pharm. Jour.*

Use of the Oleates.

THE marked success that has attended the use of the oleates has induced Dr. Shoemaker to experiment with fresh compounds, and he reports (*Med. Bulletin*, vi., 38), that he has obtained valuable results from the use of the oleates of nickel and tin. The nickel oleate is prepared by the double decomposition of nickel sulphate and sodium oleate. It is described as a green, amorphous, waxy, tasteless substance, having a most decided astringent action, almost bordering upon the effect of a caustic. In cases of chronic eczema of the extremities, where the skin was hard and leathery, it is said to have given good results, and it is now being tested upon old ulcers and cancerous affections of the skin. An ointment is used of the strength of fifteen grains of the oleate to one ounce of lard. The tin oleate, as prepared by the double decomposition of tin chloride and sodium oleate, is grayish-yellow, of an unguent consistence and has a marked metallic taste. It has been found of great utility in giving lustre to diseased nails that have become abnormal or deficient in growth, and to assist by its local action in overcoming split and soft conditions of nails that often follow certain skin affections and external injuries. Combined with a little carmine, it is said to form an elegant toilet article, imparting a beautiful polish to the nails and by its astringent action modifying the ragged and attenuated state of the skin at their base which gives to the troublesome affection of "agnails."—*Med. Bulletin* and *Pharm. Journ.*



HOT-WATER WASH-BOTTLE.

FOR the purpose of avoiding the injurious action of steam accidentally projected into the mouth by careless handling of the hot-water wash-bottle, Ost has devised the attachment here illustrated. Air is blown into the flask through the U-shaped tube *A*, the inner end of which is provided with a flat glass shoulder. Through the stopper in the upper tubulure of the tube *B* passes a curved glass tube held in a central position by a shoulder blown on to its inner end. Inside of this tube another narrower one is placed, which slides up or down without friction, but which closes, while down, the inner orifice of the blowing tube.

When air is blown in the apparatus, the loose piston is driven upwards, and the air finds its way into the flask. As soon as the blowing is interrupted, the piston falls back again and closes the orifice of the blowing tube, preventing thereby the passage of steam or hot water into the mouth of the operator. Any confined steam will find its exit through the aperture at *C*.—*Chemiker Zeit.*

The Active Principle of Jequirity (Abrus Precatorius).

(Compare article on page 103.)

WHEN jequirity was first introduced in ophthalmic practice, it was supposed that it contained some active principle which caused the peculiar action upon the conjunctiva and the mucous membrane of the eye. Not long afterwards, however, the presence of an active principle was denied, and its action was ascribed to peculiar bacteria existing in the infusion and apparently pre-existing in the seeds. Though this theory seemed, on its face, rather improbable, it nevertheless was supported by what seemed almost conclusive proofs. Lately, however, the fallacy of this supposition has been demonstrated, but no special active principle has thus far been discovered.

That there must be some such substance present is proved by some re-

markable results obtained with the dialysate of jequirity, prepared by McIntyre and Embury of New York (99 North Moore street). This is prepared by dialysis from the seed and forms one of the series of these well-known preparations which are made so as to represent one part of the drug in two parts of the product.

In the Manhattan Eye and Ear Hospital the dialysate was diluted with five times its bulk of water—the solution therefore representing one part of the drug in about ten parts of liquid—before being used, and it has acted very satisfactorily.

The dialysis had been performed by means of parchment paper, the dialysate standardized and mixed with a sufficient amount of glycerin to make a product of the strength stated above.

In one case a marked effect was obtained with a dilution of one part of the dialysate with nine parts of water.

This appears to be a positive proof that the active principle is alkaloidal.

Test for Tartaric in Citric Acid.

IN a former number we gave an abstract of a paper by Athenstädt on an improved method for discovering the presence of one or more per cent of tartaric in citric acid.

The test prescribed by the German pharmacopœia is as follows:

"On adding an alcoholic solution of acetate of potassium to an aqueous solution of the acid (1 in 3), no white crystalline precipitate should be produced."

This test has been criticised as not being quite sharp enough, since neither the strength nor the quantity of the solution of acetate of potassium is mentioned.

Mr. Th. Push now states that Mr. Athenstädt's method is likewise unreliable, since the addition of the solution of citric acid, *entirely* free from tartaric, if performed as directed by the author—namely by dropping it into lime-water—produces the same kind of opalescence as if one per cent or thereabouts of citric acid had been present. Push states himself that this is a remarkable occurrence, apparently showing that citrate of calcium may separate already in the cold.

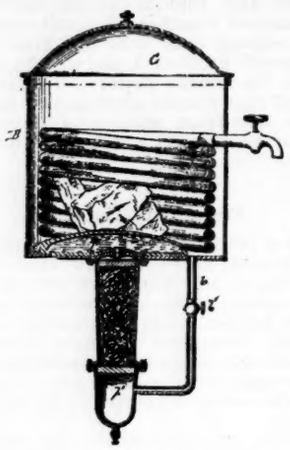
He proposes, as an amendment, the following method: Pour 10 Gm. of pure, colorless, concentrated sulphuric acid upon 1 Gm. of powdered citric acid, in a test-tube. Hang the latter into a beaker glass containing water, and heat the latter, for one hour, to boiling. The acid dissolves, with evolution of gas and foam to a citron-yellow liquid, and, if it was pure, does not alter this color inside of the hour. But if it contained only as much as one-half per cent of tartaric acid, the citron-yellow liquid will become gradually brownish after 25 to 30 minutes, and reddish-brown after one hour. Of course, the crystals selected for this purpose must be absolutely free from organic foreign substances, (paper, etc.), such as are often accidentally mixed with it. The author thinks that even a smaller quantity of tartaric acid will be indicated by this test. It is best to treat at the same time another sample of citric acid of known purity, so as to afford a means of comparison.

This test suggested itself to the author from a passage found in Schmidt's "Lehrbuch d. Pharm. Chem." He found it mentioned nowhere else.—*Arch. d. Pharm.*

Note by Ed. A. D.—The corresponding test of the U. S. Pharm. of 1880 is the following:

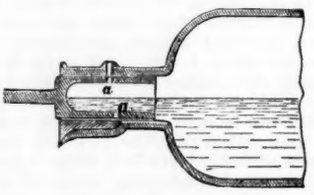
"If 1 Gm. of citric acid be dissolved in 10 C.c. of a cold-saturated solution of bichromate of potassium, no darkening of the liquid should be observed within five minutes (absence of one per cent or more of tartaric acid)."

According to our experience, this test is sufficiently accurate. But even here it is advisable to have a pure sample of citric acid for comparison.



COMBINED WATER FILTER AND COOLER.

MR. FRANK E. CADY, of Auburn, N. Y., is the inventor of a combined water filter and cooler which is illustrated, in section, in the adjoining figure. The water, being placed in the reservoir, passes by means of the small tube *b* into the small chamber F, at the bottom of the filtering chamber. From thence it rises through the filtering materials and finally is discharged through the coiled tube placed in the reservoir, and may be drawn off by the faucet at the side of the reservoir. The ice is placed within the coil of pipe and thus serves to cool the water both before and after it is filtered. The faucet *b'* is to be used for stopping the flow of water towards the filter, and a small petcock at the bottom of the chamber F is for the escape of sediment.



DROP-COUNTER.

HERMANN LAMPRECHT and Georg Hirdes have patented (Germ. Pat. 24,116), the drop-counter here illustrated.

It has a hollow stopper, provided with a small aperture at the side which corresponds to a similar aperture in the neck of the bottle, the object of which is to admit air. Along the opposite side of the stopper a narrow channel is ground, by which the liquid finds its exit.

Improvement in the Manufacture of Liquid Paraffin.

THE German pharmacopœia directs paraffin ointment to be prepared from a mixture of solid and liquid paraffins. When the pharmacopœia appeared, no commercial sample of either paraffin was found which would bear the officinal tests, but shortly afterwards this defect was removed.

Owing, however, to the want of homogeneity of the mixture caused by the partial separation of the liquid and solid portion, many physicians and pharmacists of Germany preferred the American product (vaseline, etc.).

L. Meyer, of Frankfort-on-the-Main, now announces that he has succeeded in producing a *viscid* paraffin, clear as water, of good body, and free from all crystallizable paraffin, of the spec. gr. 0.885, and absolutely odorless and tasteless. This latter property appears specially valuable, since most or all previously produced paraffin oils possessed a more or less pregnant twang recalling that of cork or cedar-wood [?].

In order to render this paraffin oil of about the consistence of vaseline, it needs the admixture of only about 8 per cent of paraffin, while the liquid paraffins heretofore produced required 25 or 30 per cent.

Danger of badly vulcanized Rubber Tubing.

LIMOUSIN warns against using badly vulcanized rubber tubing, especially when preparing oxygen gas, since several explosions from this cause have recently occurred, which are no doubt owing to the free sulphur adhering to the inner wall of the rubber tubing. The proportion of sulphur in the latter is very commonly increased beyond the normal quantity by unscrupulous manufactures. The author has often found tubing which contained 0.6 Gm. of loose sulphur adhering to the interior of a length weighing only 2.3 Gm.—*Journ. de Pharm.*

Synthesis of Piperidine.

PROFESSOR LADENBURG announces that he has succeeded in forming piperidine (the decomposition product of piperin) artificially, starting from picoline (derived from animal oils). There are quite a series of different piperidine-compounds possible, depending upon the compound radical (methyl, ethyl, etc.) contained in them. From each of them, however, the base (piperidine) may easily be separated.

One of the ethyl-piperidines has an odor very much resembling that of coniine and piperidine, and Professor Ladenburg thinks that he is on the road of finding the actual constitution of coniine. He promises interesting results from his current investigation of the propyl-piperidines.—*Ber. d. Deutsch. Chem. Ges.*, 1884, 388.

Preparation of Crystallized Sulphuric Acid.

MONOHYDRATED, or crystallized sulphuric acid may be prepared from any sulphuric acid of 66° B. or over, by cooling it to 0° C. (32° F.), introducing a few crystals of monohydrated acid and continuing the cooling until crystallization ensues. The crystals are separated from the mother liquid by draining or pressing, or centrifugal machines, etc. In order to obtain perfectly pure crystals, the first crop is allowed to melt, again cooled, and the new crop of crystals separated as before. This treatment is repeated as often as necessary.—*Germ. Pat.* No. 24,403.

Selections from the New York and Brooklyn Formulary.

66. SPIRITUS AROMATICUS.

Aromatic Spirit.

I.

Orange Peel, fresh and deprived of the inner, white portion	8 av. oz.
Lemon Peel, fresh	2 " "
Coriander, bruised	2 " "
Oil of Staranise	16 min.
Deodorized Alcohol, enough to make	16 fl. oz.

Macerate the solids during four days with *one* (1) *gallon* of Deodorized Alcohol, then add the Oil of Staranise, filter, and pass enough Deodorized Alcohol through the filter to make the product measure *one* (1) *gallon.*

II.

Aromatic Spirit may also be prepared as follows.

Compound Spirit of Orange (No. 67)..... 8 fl. oz.
Deodorized Alcohol, enough to make..... 1 gallon.
Mix them.

Note.—Whenever practicable, the first of the above-mentioned formulæ should be followed. When the quantity of Aromatic Spirit to be prepared at one time is so large that it becomes inconvenient to separate the peel from fresh oranges and lemons, the second formula may be substituted.

67. SPIRITUS AURANTII COMPOSITUS.

Compound Spirit of Orange.

Oil of Bitter Orange Peel.. 4 fl. oz.
Oil of Lemon..... 1 fl. oz.
Oil of Coriander..... 160 min.
Oil of Staranise..... 40 min.
Deodorized Alcohol, enough to make..... 20 fl. oz.
Mix them.

One (1) *fluidounce* of this solution and *fifteen* (15) *fluidounces* of Deodorized Alcohol make *one* (1) *pint* of Aromatic Spirit (II.).

Note. Both the Oil of Orange and the Oil of Lemon must be absolutely free from terebinthinate odor and taste. Both oils should be procured only from the most reliable source and, as soon as received, diluted with a definite quantity of Deodorized Alcohol, which will retard deterioration. Neither oil should be kept in stock for any length of time, or should at least be kept in bottles completely filled, and in a dark place. The same precautions ought to be observed with the alcoholic solutions. If Oil of Curaçao Orange can be obtained, it is advisable to use this, in place of ordinary Oil of Orange, as it imparts to the Spirit a much finer flavor than the latter.

46. ELIXIR SIMPLEX.

Simple Elixir.

Aromatic Spirit (No. 66).. 16 fl. oz.
Syrup..... 24 "
Water..... 24 "
Phosphate of Calcium.... 1 av. oz.

Mix the liquids, adding the water last; then mix thoroughly with the Phosphate of Calcium, and filter through a well-wetted filter, returning the first portions of the filtrate until it runs through clear.

Note. The spec. gr. of Simple Elixir is 1.100.

Comments by Ed. A. D.

We have already in a preceding number (p. 63) drawn attention to the fact that the officinal process for preparing Simple Elixir does not yield a satisfactory product, owing to the liability of the Oil of Orange to deteriorate during its exposure to the air, while being incorporated into the cotton. The process should be modified so as to mix the Oil, while still fresh, with the Alcohol, and then to add the other ingredients.

It has been stated that Simple Elixir prepared by adding other flavoring materials to Oil of Orange, or to a mixture of Orange and Lemon, is not unfrequently disliked by patients. This may be the case when these flavors become prominent. But when they are so well blended that they merely modify the chief flavor without betraying their own individual presence, the case is different. On the whole, we doubt whether a more pleasant Simple Elixir has ever been offered than that prepared by the formula (No. 46), provided care is taken in its preparation.

The preface to the Formulary gives some useful hints in regard to the filtration of Simple Elixir or other viscid liquids. It says:

"In filtering many of the preparations quoted in this pamphlet, some difficulty will be encountered, owing to the density or viscidity of the liquid. Some liquids will slowly deposit a sediment; in the case of these, it will be found that filtration proceeds much more easily after they have been allowed to stand for some time. If they are required sooner, and filtration is to be hastened, a suitable quantity of phosphate of calcium may be added (provided the liquid contains no free acid), which is to be thoroughly incorporated, after which the mixture is to be poured into a well-wetted filter. The latter is best wetted with a mixture of alcohol and water, approaching in alcoholic strength that of the liquid to be filtered, provided it contains any alcohol at all. In most cases, however, water will answer equally well. In pouring the mixture into the filter, the latter should be filled as high as possible, so as to cause the deposition of solid particles in the pores of the paper, at once, over the whole available filtering-surface; and, on refilling the filter, the height to which it had been filled previously should not be exceeded. The first portions of the filtrate should be collected separately and returned to the filter, until the liquid comes through perfectly clear."

[In some rare cases, the act of pouring in a fresh portion of liquid displaces some of the insoluble filtering-material—posphate of calcium, etc.—from the pores of the filter, so that a small portion of the fresh filtrate will be cloudy. To prevent this, a flat (specie) cork may be laid in the filter, upon which any succeeding liquid is afterwards poured.]

"Aromatic or alcoholic liquids must be filtered in well-covered funnels.

"A liquid may be so viscid that it will not easily run through the filter, or the filter may become so firmly adherent to the funnel that no liquid can pass except from its point. This drawback may be removed by placing between filter and funnel some contrivance or substance which will prevent direct contact. A moderately thin layer of clean tow around the sides, leaving the point of the filter clear, will be found a good expedient."

The *aromatic spirit* which forms the basis of simple elixir should always be kept in stock in considerable quantity. The directions are that the first formula should always be followed, if practicable. In places where good oil of orange and lemon is not readily obtainable—and many of our readers are probably unable to readily obtain the best qualities of either oil—or, when the quantity of aromatic spirit to be prepared at one time is very large, the second formula may be substituted.

The writer of this, while preparing one lot of ten gallons of aromatic spirit, had ample opportunity to experience the inconvenience of the first formula. As the preparation was needed at once, the whole of the oranges and lemons required for this purpose had to be peeled at one sitting, necessitating the help of several persons. Besides, it was not an easy matter to find enough lovers of oranges to dispose of the large pile of luscious fruit ready to be eaten. Accordingly, he has been glad to avail himself, since then, of the second formula, and, indeed, the product leaves nothing to be desired.

When the simple elixir is to be used in combination with substances which do not materially modify its *flavor*, and when it is desirable to have it of as fine and pure a flavor as possible, the ordinary oil of orange should be replaced by that known in trade as oil of curaçao, made from curaçao oranges (chiefly). This may be obtained from such houses, for instance, as Schimmel & Co. (New York branch: Fritzsche Brothers, 51–53 Barclay st.). A still finer brand is the so-called oil of mandarin (oranges, from *Citrus nobilis*), which is, however, rather expensive.

A good practical test for the freshness of oil of orange and oil of lemon, and their freedom from terebinthinate odor and taste, is the following: Pour ½ fluidounce of simple syrup into a test-tube, add 1 drop of the oil, and mix thoroughly. Then pour a little on a watch-glass, or on the hand, and taste it. In this combination, any terebinthinate taste will come out quite decidedly. Any oil which shows decided traces of it should be rejected, at least for the purpose of making elixirs or perfumery.

If the oils are found fresh, and free from terebinthinate odor or taste, they *may* be protected from change, for some time, by being mixed with five per cent of *deodorized* alcohol [no other should be used, so as not to render it useless for perfumery]. The addition of this causes a deposit after a while, from which the clear oil may be poured off. A still better plan is to mix the oil with enough deodorized alcohol to dissolve it. Oil of orange requires at least six volumes of deodorized alcohol for this purpose. When the oil is afterwards needed, it is only necessary to measure out, from such a solution, *six* volumes for every *one* volume of oil required.

Oils of coriander and of staranise are not very prone to change, at least the latter. If they are kept in vials or bottles filled as far as possible to the neck, and securely stopped, they will seldom deteriorate.

Deodorized alcohol should always be used for fine preparations of this kind, as the aroma of delicate essential oils is invariably injured by using ordinary alcohol. Any one may convince himself of this by making two simple elixirs, from the same essential oils, and the two kinds of alcohol. The difference will be found quite marked.

53. EMULSIO OLEI MORRHUÆ FORTIOR.

Stronger Emulsion of Cod-Liver Oil.

Acacia, in fine powder.... 2 av. oz.
Sugar, in fine powder..... 4 "
Cod-Liver oil .....16 fl. oz.
Water, enough to make..28 "

Mix the acacia and sugar with the cod-liver oil in a dry mortar, and add *eight* (8) *fluidounces* of water. Then triturate thoroughly and continuously until the oil is emulsified, and finally incorporate enough water to make the product *twenty-eight* (28) *fluidounces*.

Note.—This is a stock-emulsion to be used for making the usual 50-per-cent simple emulsion of cod-liver oil, or compound emulsions containing such additions as may be prescribed by the physician.

Instead of trituration in a mortar, mechanical means (such as a churn, egg-beater, etc.) may be employed for emulsifying the oil. Care should be taken not to suspend or interrupt the trituration or agitation until the emulsifying process is completed, since otherwise the emulsion will not be permanent.

It is advisable to keep this stock-emulsion in the bottles in which emulsions are usually dispensed; 7 fluidounces being put into an 8-oz. bottle, 14 fluidounces into a 16-oz. bottle, etc. When either a plain or a compound emulsion is called for, it is completed by the addition of the required ingredients.

Note by ED. AM. DR.—Some pharmacists are in the habit of using a vaginal syringe for effecting the emulsifying of the oil. The mixture being drawn up and again ejected with force through the fine orifices of the syringe, rapidly becomes emulsified and remains permanent. Though it requires only a very short time to produce what seems to be a perfect emulsion, it is always best to continue the agitation for some time longer (say 15 to 20 minutes). When the stock-emulsion is filled into bottles, it is advisable to pour into each about 1 fluidrachm of alcohol, which will in a measure prevent the surface of the emulsion from becoming tough and viscid. Of course, the bottles should

be well corked and kept in a cool and dark place. Supposing a simple 50-per-cent cod-liver oil emulsion is at any time called for, we use the next succeeding formula:

54. EMULSIO OLEI MORRHUÆ.

Emulsion of Cod-Liver Oil.

Stronger Emulsion of Cod-Liver Oil (No. 53)	14 fl. oz.
Oil of Sassafras	15 min.
Oil of Wintergreen	15 "
Water, enough to make	16 fl. oz.

Mix them thoroughly.

Mode of Administering Paraldehyde.

THE disagreeable taste and persistence of the odor in the breath which appear to be serious inconveniences attending the administration of paraldehyde are calling forth the ingenuity of German dispensers. Herr Sutter (*Pharm. Zeit.*, April 9th) says that he finds rum to be the most advantageous corrigent for masking the taste, and he gives the following formula which he says yields a mixture resembling cold punch:

	Gm.	about.
Paraldehyde,	100	3 fl. oz.
Jamaica Rum,	150–200	5 to 7 fl. oz.
Tinct. of Lemon or Orange Peel,	10	½ fl. oz.
Syrup,	300	8 fl. oz.
Water,	1390–1440	45 to 47 fl. oz.
Dose,	100 gm.	ab. 3 fl. oz.

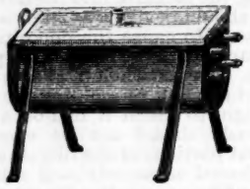
For the administration of paraldehyde as a clyster, he recommends a mixture in the proportion of one part of paraldehyde to two parts of olive oil. Herr Hellwig speaks favorably of two mixtures (*a*) paraldehyde, 3; ol. olivæ, 15; ol. menth. pip., gtt. 3; and (*b*) paraldehyde, 3; spiritus, 6; syr. simp. 8; and tinct. vanillæ, 2. But he prefers an emulsion of paraldehyde, 3; mucil. gum acac. and syr. cort. aurant. āā 8, with the addition of two or three drops of ol. menth. pip.—After *Pharm. Journ.*

Osmic Acid in Neuralgia.

PROFESSOR EULENBURG has communicated some information as to his method of treating neuralgia with osmic acid. A one-per-cent solution of the osmic acid crystals in distilled water is used, and this should be kept in well-closed bottles protected from the light. Notwithstanding this precaution, the solution after a time darkens gradually and a dark, almost blackish, separation takes place, so that it is advisable to prepare only small quantities at a time. The darkened solution can, however, be used without disadvantages. The dose injected is usually 0,005 gramme (=0.5 of the solution); in exceptional cases 0.01 gramme (=1.0 of the solution) has been administered, but even this quantity produces no local or general disturbance. It is rather surprising that this pungent acid (resembling chlorine), which has a strongly irritating action on the outer cuticle, should cause so little pain when injected subcutaneously and scarcely produce any apparent change in the skin or tissue beneath it. At the most there is, as a rule, only a slight reddening or possibly an insignificant swelling in the neighborhood of the puncture, but this quickly disappears. Sometimes the puncture may become blackened by the extrusion of a drop of the acid, but this has not been observed to cause any local inconvenience.—*Pharm. Zeit.* and *Pharm. Journ.*

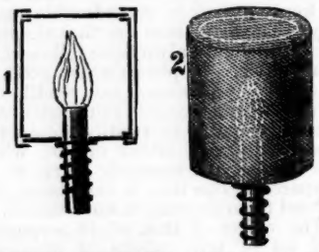
[*Note of A. D.*—While the vapor given off by osmium tetroxide, or osmic acid, OsO_4 even at the ordinary temperature is highly irritating to the eyes, nose and air-passages, it is still more so when warmed or heated. It produces the most violent pain and inflammation of the conjunctiva, and may produce blindness by the deposition of metallic osmium. It also causes a painful eruption when brought in contact with the skin. This can be removed by sulphur baths. The best antidote against the effects of osmic acid when inhaled is the inhalation of sulphuretted hydrogen (recommended by Claus), which must, however, be done very cautiously.

Osmic acid appears in transparent, yellow needles which become soft and may be moulded like wax, and melt at a lower temperature than the latter.]



A SAFETY OVEN FOR PRELIMINARY EXPERIMENTS UNDER PRESSURE.

IN order to ascertain, on small samples of materials, what temperature and what time will be required to bring about reactions under pressure—in sealed glass tubes—Julius Schober, of Berlin, has constructed the apparatus here shown. It is an iron trough, through which several strong iron tubes pass, intended for receiving the sealed glass tubes. The interior of the trough is filled with paraffin, and heat is applied in any convenient manner below. Should the pressure within the tubes exceed the resistance of the glass, the tube will, of course, explode, but the glass with contents will be fired out at both ends of the iron-tube, which must be in such a direction that no damage can ensue. After a preliminary experiment on the small scale, the operator will be much more able to work on a large scale with safety and dispatch.—*Chem. Centralbl.*, 1884, No. 1.



SAFETY BURNER FOR EVAPORATING ETHER, ETC.

To avoid the risk of fire or explosion, when evaporating ether or other inflammable liquids, by the flame of the water-bath setting fire to the vapor, Alexander Ehrenburg recommends the following contrivance.

Construct two cylinders of fine-meshed wire gauze and push one inside the other, using a round iron as a form to keep the cylinder round. Fold in the ends above and below and insert a top and bottom piece, likewise made of fine wire-gauze. Into the bottom a hole is made, through which the end of the burner is pushed, the place of insertion being made tight by a brass washer pressed upwards by means of a spring. This spring at the same time pushes the whole drum upwards, so that it may continuously remain in contact with the bottom of the water-bath. The inventor states that no ignition will take place, even though drops of liquid ether be thrown against the drum of wire-gauze.—*Chem. Zeitung.*

Capsicum in 3-grain doses is recommended by Vidal for piles. Capsicum in a bolus of twenty grains is a favorite army remedy for acute alcoholism.

The Price of Cinchona Bark in Relation to its Alkaloidal Contents.

DR. DE VRIJ writes that at Amsterdam, on February 29th last, he observed that two lots of Ledgeriana bark containing 4.05 per cent of pure quinine were sold at 3*s.* 7*d.* per half kilogramme, whilst one lot of red bark containing 7.35 per cent of total alkaloids and only 1.18 per cent of pure quinine was sold at 3*s.* 5*d.* per half kilogramme. The latter was, however, in long quills having a fine appearance. It is obvious, therefore, that price alone is no indication of alkaloidal contents. He also remarks that the presence of cinchonidine in many samples of commercial quinine is easily detected by the optical test recommended a few years ago by Professor A. C. Oudemans.—*Pharm. Journ.*

Testing Menthol or Migraine Pencils.

MYLIUS recommends testing the genuineness of the so-called migraine pencils by the following characteristics:

The pencils should be of a coarsely-crystalline structure, translucent, and not chalky. When scraped in water, the pencil should make the impression as if it were composed of a hard salt, and should not present a fatty or waxy appearance. If a small portion of the pencil be put into a narrow tube, and the latter be heated in a bath of diluted sulphuric acid, the mass should melt at a temperature at or below 38° C. (pure menthol melts at 36° C.). The whole mass of the pencil should melt at once, not successive layers from time to time. All substances used for adulterating the mass possess a higher melting point, except some very low melting paraffins. But the latter are left behind if the pencils are dissolved in alcohol.—*Pharm. Centralh.*

New Bleaching Process.

AN ingenious modification of the process of bleaching has been introduced by Mr. J. B. Thompson, which promises to effect a great saving of time and labor. In the ordinary process, the goods to be bleached are usually first boiled with lime for about seven hours, after which they are washed in water and "soured" by steeping them for four or five hours in water acidulated with hydrochloric acid. Then after another washing they are boiled for nine hours in soda ley, again washed, and next submitted to the "chemicking" process which consists in steeping them in a dilute solution of chloride of lime for four hours. With the exception of the lime boiling this treatment is repeated several times, involving, in the case of cotton goods, some sixteen distinct operations extending over a period of eight to ten days. In Mr. Thompson's process the "souring" and "chemicking" operations are combined in one. The goods are placed in an air-tight "kier," connected on the one hand with a vessel containing a dilute solution of chloride of lime, and on the other with a gas holder containing carbonic acid gas. A charge of the bleaching solution is first pumped in and the goods are allowed to soak in it during five minutes, after which communication is opened with the gas holder and the liquor is run out from the bottom of the "kier." The partial vacuum thus created causes an inrush of the gas, and the goods are subjected to its action for fifty-five minutes, by the end of which time the whole of the chloride has been decomposed in contact with the fibre of the cloth. Bleaching liquor is then again pumped into the "kier" driving the gas back into the gas holder, and these processes are repeated alternately according to the necessity of the case. Lastly the goods are passed through a [very dilute blueing-] solution of triethylrosaniline and oxalic acid, which removes the natural faint yellow tinge from the cotton.—*Pharm. Journ.*

Assay of Cinchona Bark.

BY A. PETIT.

PROLLIUS has shown that the whole of the alkaloids of cinchona bark may be obtained in solution by treating, say 40 grammes of the powdered bark with 800 Gm. of a mixture composed of

Alcohol, 95% ..... 67 parts.
Ether, sp. gr., 0.724.733 "
Water of ammonia. 32 "

Comparative experiments have shown me that the bark must be in as fine powder as possible, and that, if the mixture be shaken every five minutes, the exhaustion is as complete after one hour, as it will be after five or six hours if merely macerated.

The next step is to pour off 600 Gm. of the liquid, corresponding to three-fourths of the alkaloids contained in the bark, that is, representing 30 Gm. of the latter.

Now add to the ethereal liquid enough of a solution containing one-fourth of its weight of sulphuric acid, so that the aqueous layer which separates shall be just acid. In general, about 20 cubic centimetres will be sufficient.

This aqueous layer contains all the alkaloids of the ethereal liquid.

The layer is separated by a suitable funnel [in fact the ethereal liquid should be in a separating funnel when treated with the acid], and the ethereal liquid again agitated with 5 C.c. of the diluted acid and 15 C.c. of water. This portion is likewise separated, and added to the former.

Now heat the aqueous liquid on a water-bath in order to get rid of the dissolved ether, then dilute it with two volumes of water, and precipitate with caustic soda in excess. On stirring with a glass rod, the alkaloids coalesce together in a mass. The same result may also be obtained by warming the liquid on the water-bath.

Transfer the alkaloids to tared capsule and dry them at a temperature of of 100° C. (212° F.).

If the liquid is not perfectly clear, it is passed through a tared filter, and the gain in weight of the latter when dried at 100° C., added to the alkaloids in the capsule.

We have now the weight of the total alkaloids contained in the 30 Gm. of bark, and from this we may calculate the quantity contained in 1 kilogramme.

The next step is to ascertain the proportion of alkaloids soluble in ether. Proceed as follows:

Dissolve the total alkaloids in a slight excess of sulphuric acid. Add 25 C.c. of ether (sp. gr. 0.724) and 5 C.c. of water of ammonia, and shake. The alkaloids soluble in ether are thereby taken up. Decant the ether; shake again with 10 C.c. of ether and decant again. Unite the ethereal solutions, let stand 15 minutes, so that the alkaloids which are but little soluble in this menstruum may deposit; decant again, and shake the clear, decanted ethereal liquid with 10 C.c. of diluted sulphuric acid (1 in 20). Separate the aqueous liquid; agitate the ethereal solution with 5 C.c. more of the dilute acid, and add the second aqueous layer to the first.

Dilute the united liquids with water to 25 C.c., heat to boiling, and saturate with pure diluted water of ammonia (1 in 5). As soon as the reaction is faintly alkaline, the heating is interrupted.

The sulphate of quinine will now separate in fine needle-shaped crystals.

When completely cold, collect it upon a tared filter, and wash it with a cold-saturated solution of sulphate of quinine; finally dry it at 100° C. (212° F.), until the weight remains constant.

We now have the weight of sulphate of quinine obtainable from thirty Gm. of bark, and, therefore, by a simple calculation, that contained in one kilogramme.

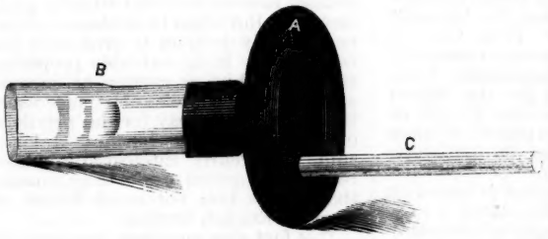
In order to prove that the sulphate of quinine thus obtained is pure, th salt is dissolved with the aid of sulphuric acid, and examined by the polariscope.

If the rotary power does not approach sufficiently close to −238.3, with sodium light, at a temperature of 15° C., the salt must be purified by a renewed treatment with ether and ammonia and recrystallization.

According to my experience, the polarimetric deviation is proportional to the quantity of salt dissolved; the amount of sulphuric acid does not influence this deviation, provided it is present in at least sufficient quantity to form bisulphate of quinine.

In practice, I prefer a solution containing one Gm. of basic sulphate dried at 100° C., dissolved in two Cc. of one-tenth per cent sulphuric acid, and enough distilled water to make twenty Cc. Under these conditions the polariscope deviation is to −110° (for pure sulphate of quinine at 15° C.). According to my experiments, it is necessary to add to the observed degree about one degree for every four degrees of temperature above 15° C.

These different treatments by acid, and the separations of the ether, are very rapidly performed if the operator has had some previous practice in these manipulations. A few hours are sufficient to make a complete assay of cinchona by this process.



STOKER'S IMPROVED INHALING APPARATUS.

DR. STOKER, of the Hospital for the Diseases of the Throat and Chest, London, has designed a simple and portable inhaler, shown in the illustration, which can be easily fitted on any small jug or pickle-bottle, converting it at once into an efficient inhaler. The principle is obvious. A is a rubber cover, B is the mouthpiece of tube flattened a little at the end, C is a smaller glass tube communicating with the outer air. On inhaling at B, air enters at C, and passes through the medicated fluid. The article is turned out at a low price, and is exceedingly portable. Doubtless it will prove salable.—*Chemist and Druggist.*

The Nature of the Ptomaines.

F. MARTNO-ZUCO has come to some interesting conclusions regarding the nature of the so-called ptomaines, which appear, however, to require further confirmation.

The author's experiments were made on a variety of fresh animal substances, viz., white and yolk of egg, brains, lungs, heart, liver, spleen, and blood, several methods being employed, with strict attention to all the conditions indicated by their authors. The result of these experiments was the extraction of a base which exhibited all the usual reactions of the alkaloids, but had the constitution of an ammonium hydroxide, and, in those cases in which an aurochloride could be prepared and analyzed, was found to be identical in composition with neurine. In one instance, traces were also found of the so-called "animal quinine."

To determine the origin of this neurine, the author applied the methods above mentioned to the lecithins (prepared by Stricker's method from egg yolk), and found that these substances behave in the same manner, as, for example, a mass of brain, egg, lungs, etc., on applying the same method to the albumen remaining after complete extraction of the lecithins: the result was purely negative. Hence, it is clear that the so-called ptomaines obtained in the extraction of fresh animal substances originate, not as is generally supposed, from sudden alterations of the proteids, but from the splitting up of the lecithins under the influence of acids or alkalies.

As neurine hydrochloride is not decomposed by sodium bicarbonate, the author was able to determine the toxological question in cases of the extraction of alkaloids from substances in which putrefaction has not yet commenced. The hydrochlorides of the alkaloid and of the so-called ptomaines, simultaneously extracted, are dissolved in water, and the liquid, rendered alkaline with sodium bicarbonate, is agitated with the solvent. The neurine then remains dissolved in the water as hydrochloride, and the alkaloid may then be extracted alone. This has been demonstrated by all the experiments made as above described, and by others on yolk of egg mixed with strychnine.

In a subsequent paper the author describes a number of experiments, chemical and physiological, tending to establish the conclusion indicated in the preceding preliminary notice, as to the identity of these bases with neurine. The most characteristic chemical reactions observed in both cases are:

With phosphoric acid: Slight brown coloration on heating.

With platinic chloride: No precipitate, but deposition of yellowish crystals after a short time.

With mercuric chloride: White precipitate.

With auric chloride: Yellowish precipitate, and, after a short time, reduction of metallic gold.

With iodized potassium iodide: Red-brown precipitate, which, however, soon redissolves.—*Gaz. Chim. It.*, 13, 431, and 441 and *Journ. Chem. Soc.*

Vesicating Liquids.

AT the meeting of the Société de Médecine Pratique on February 21st, M. Delthil presented a vesicating liquid composed of a solution of cantharides in acetic acid, which offers several advantages over the ordinary plaster masses. It is applied in coats by means of a brush. The first coat produces a rubefacient effect, the second a slight vesication, the third ordinary vesication, and the fourth very great vesication.

The advantages of this liquid are numerous: 1st, its action is limited and fixed; 2d, its liquid state enables one to apply it to all parts of the body where its employment may be necessary; 3d, it is more acceptable to patients, and its action is perhaps less painful than that of ordinary vesicants; 4th, it acts more quickly than plasters; 5th, the various effects may be obtained by adding to the number of coats; 6th, its advantages are especially seen when used on children.

The action of the liquid may be limited to the desired space by cutting an opening in a piece of cere cloth, as in the application of Vienna paste. Before applying it, the surface of the skin should be washed in warm water, and then rubbed dry and red; after applying the desired number of coats, the spot is covered with wadding.—*Journal de Méd. de Paris*, Apr. 5th, 1884.

THE

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EDITORIAL.

Pharmaceutical Monopoly.

THE following remarks by the editor of the *Chemist and Druggist* show that, in spite of the impression to the contrary, German apothecaries are not very much better off than those of England or the United States, as regards the financial embarrassments to which they are subjected.

The *Pharmaceutische Zeitung* quotes from the *Berliner Tageblatt* some complaints on the enormous increase in the charges of pharmacists. The complaint is said by the Berlin journal to be of public interest. The limitation in the number of pharmacies prevents the reduction of prices by competition, so that of two things one, or perhaps both, must happen, either a general and considerable abatement of the official tariff, or a removal, at least partial, of the monopoly of the existing pharmacies. But another element of the disorder is the preference of physicians for prescribing dear medicines when they get from the apothecary a percentage on the value of the medicines they prescribe. This arrangement, says the journal, is common in the smaller places.

The *Pharmaceutische Zeitung* neither denies nor admits the charge of extortion, but follows it by an allusion to a petition to the Reichstag for the introduction of a system of personal concessions giving to individual pharmacists the right to open shops in particular districts during their lifetime, but reserving to the authorities the right to vend or otherwise dispose of the concession. Some remarkable facts are mentioned. The concession of thirteen new pharmacies in Berlin, estimating each at only £5,000 to £6,000, is equal to a gift of £75,000, the interest on which must be paid by the public in the shape of increased prices for medicines. The value of the monopolies throughout the whole of Germany is estimated at £10,000,000, which sum increases, year by year, like an avalanche. The public, therefore, pays nearly half a million of money a year as interest on a property created out of nothing.

English pharmacists often cast onging looks on the German system. They imagine that it must be perfect bliss to be the owner of one of a limited number of pharmacies in a large district, dispensing medicines at a fixed rate and enjoying some measure of respect as a dependent, if not a servant, of the State, quite certain that no opponent can open a shop in the next street and cut the prices. But the real state of affairs is a good illustration of the fact that a man can make his livonly by personal exertions, and that this is all the public will pay him for. The concession which gives an absolute right to open a pharmacy in any district insures its first owner a good income. But when he wishes to retire, he naturally declines to give away his concession. It is valuable property, securing to him as certain an income as money in consols. His successor, therefore, has to pay for the privilege of carrying on the business a large sum, the yearly interest on which reduces the actual profits to an amount that leaves him not much better off than his English brother.

This fact also accounts, to some extent, for the higher social position enjoyed by the German pharmacist. From the necessities of the case, he must be a larger capitalist than the British chemist generally is. There is hardly a chance that he will be able to start in business for himself unless he possess some few thousands of pounds.

The French Codex.

THE new French Codex has at last appeared. It was issued on Feb. 26th, and was directed by law to go into effect March 15th. Since its appearance it has already been severely criticised, perhaps to a less degree by foreigners than by French critics themselves. The unfavorable criticism unfortunately appear to be well deserved, and it is evident that the editor has made numerous bad blunders and mistakes, worse than have appeared in any other official pharmacopœia published in recent times. When the period of deliberation of the Commission was considered to have lasted long enough, the different reports and contributions were handed over to the editor, who was thereupon ordered to prepare the work and issue it. It does not appear that any precaution was taken to furnish copies of the manuscript and proofs of each printed sheet to every member of the Commission. To the surprise of the Société de Pharmacie of Paris, and of some others who made elaborate investigations and most valuable contributions, it now appears that the latter were to a great extent ignored. The errors and defects so far discovered are of such a nature that protests against the new codex are already being issued, and a recommendation made that the government at once print a new corrected edition, and call in and withdraw all copies of the first issue. Among the errors are noticed, for instance, the omission of any mention or description, in the section of materia medica, of some twenty or more vegetable drugs which occur as ingredients in the galenical part. Had the pharmacists been permitted to inspect the completed manuscript and examine the proofs while the work went through the press, a large number of the blunders would certainly have been avoided.

It is also reported that some prominent French physicians have begun to designate in their prescription, after the names of ingredients, that the formulæ of the former Codex are intended —by writing in brackets ("*ancien codex*"); but this practice is illegal. If they desire any preparation different from the new Codex, they are compelled to write out the whole formula.

The upshot of the present developments will probably be that a Supplement will be issued, in which the errors will be officially corrected.

New York and Brooklyn Formulary.

THE first edition of the New York and Brooklyn Formulary of Unofficinal Preparations was exhausted within ten days after its appearance, which appears to show conclusively that the work was anxiously expected and is appreciated. It is, at present, perhaps merely a skeleton, compared with what it can be made in the course of time; and, in order to prepare for suitable additions, it should be the aim of each possessor of the book to suggest improvements and additions.

The committee, having been so long at work preparing the book, were anxious to pass it through the press as rapidly as possible. This has resulted in overlooking some errors or typographical mistakes, which have, since then, been corrected. Since a considerable number of copies had been issued before the errors were noticed, owners of the book are requested to inspect their copies and make the following corrections, if necessary:

Page 11, line 5 from below, read: 768 minims.

Page 40, line 3 from below, and page 41, line 12 from below, read: Citrate of Iron and Ammonium (instead of Phosphate of Iron).

Page 43, *a*, line 11 from below, read: Phosphate (instead of Sulphate).

A few letters or figures appear broken off in some copies:

Page 16, line 6 from above, read: 16 fluidounces.

Page 18, line 1 from above, read: Elixir.

Page 18, line 11 from above, insert the figure "36."

The National Retail Drug Association.

THIS organization is reported to be flourishing The actual membership is not publicly known, but if one may judge from the action of the numerous local associations that have been formed since the meeting in Washington, several hundred of names and dollars must have been collected. It is very likely that one of the immediate results of the numerous meetings of State Pharmaceutical Associations in June will be the more rapid increase of membership in this national body.

We are somewhat surprised that it has been necessary to use such persistent effort to convince the retail pharmacists of the need for such an organization. The expense is so trifling compared with the prospective advantages that no one should hesitate to affiliate himself with the movement who expects to continue in business in the retail drug-trade. It is worth a great deal to any project to have the services of so many able and sagacious workers as are foremost in this movement, and their enthusiasm deserves better encouragement than it has yet received on the part of those whose interests are most in view.

New York State Pharmacy Law.

AN ACT TO ESTABLISH A BOARD OF PHARMACY AND TO REGULATE THE PRACTICE OF PHARMACY FOR ALL THE COUNTIES OF THIS STATE, EXCEPT NEW YORK, ERIE, AND KINGS.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. There shall be established and created a Board of Pharmacy as follows:

1. Within ninety days after the passage of this act, the New York State Pharmaceutical Association shall nominate ten pharmacists, residents of the district to which this act applies, from which number the Governor of the State shall, within twenty days after notice to him of such nomination, appoint five, who shall constitute the Board of Pharmacy.

2. It shall be the duty of each member of the Board of Pharmacy, immediately after the receipt of the notice of his appointment, to appear before the clerk of the county in which he resides, and make and subscribe an oath to properly and faithfully discharge the duties of a member of the said Board of Pharmacy.

3. One of said members shall hold office for one year, one for two years, one for three years, one for four years, and one for five years, from the first Tuesday of September in the year one thousand eight hundred and eighty-four, which term shall be determined by lot at the first meeting of said Board of Pharmacy.

4. The said members of said board shall meet on the first Tuesday of September in the year one thousand eight hundred and eighty-four at the College of Pharmacy building in the city of Albany, at twelve o'clock, noon, of that day, and shall immediately proceed to organize, by determining by lot the respective terms for which they shall hold office, and by electing a president, treasurer, and secretary, who shall hold their respective offices for the term of one year.

5. The board shall hold meetings at least once in three months. Three members shall constitute a quorum.

6. The said board shall have power to make such by-laws, not inconsistent with the constitution, or the provisions of this act, as it may deem necessary.

§ 2. It shall be the duty of the Board of Pharmacy:

1. To examine all persons applying for licenses under this act, and to grant licenses to such persons as may be entitled to the same.

2. To keep a record of licensed pharmacists.

3. To investigate all complaints of disregard, non-compliance, or violation of the provisions of this act, and to bring all cases of violation to the notice of the proper prosecuting officers.

§ 3. Any person who, at the time of the passage of this act, is carrying on the business of retailing or dispensing drugs, medicines, or poisons, or practising pharmacy on his own account, or who, at the time of the passage of this act, shall have served five years or upwards at the business of retailing or dispensing drugs, medicines, or poisons, or practising pharmacy, and who is over the age of twenty-one years, or any person who holds a certificate of registration as a pharmacist from any Board of Pharmacy legally created under the laws of this State, or any person who holds a diploma as a graduate of any incorporated college of pharmacy of this State, shall be granted a license by said Board of Pharmacy to practise as a pharmacist, upon compliance with the requirements hereinafter stated.

§ 4. Any person entitled to a license as a pharmacist, as provided for in section three, who shall not, within ninety days after the organization of the Board of Pharmacy, as herein provided, make a written application to such board for such license, accompanied by a written statement signed by him or her and duly verified before an officer authorized to administer oaths within this State, fully setting forth the grounds upon which he or she claims such license, shall be deemed to have waived his or her right to a license under the provisions of said section.

§ 5. No license shall be granted to any person under the provisions of section three of this act, unless the applicant pays to said Board of Pharmacy the sum of five dollars.

§ 6. The said Board of Pharmacy shall make such regulations for the examination of applicants for licenses and the granting of licenses to such applicants, and the payment of license fees, as it may deem proper; but no license fee shall exceed the sum of five dollars.

§ 7. The New York State Pharmaceutical Association shall, annually, after the first Monday in June in the year eighteen hundred and eighty-four, nominate ten pharmacists, residents of the district to which the act applies, from which number the Governor shall fill the vacancy annually occurring in the board, and the person so appointed by the Governor shall hold office for five years. In case of the death, resignation, or removal from the State of any member of the board before the expiration of his term of office, or in case of vacancy occurring from any other cause but expiration of term of office, the Governor shall fill the vacancy from the list of names nominated as aforesaid during the year in which such vacancy occurs, and the person appointed shall hold for the unexpired term of his predecessor.

§ 8. Every person to whom a license is granted by said Board of Pharmacy shall display the same in a conspiouous part of the pharmacy in which he or she does business.

§ 9. No license granted by said Board of Pharmacy shall be revoked except for just and sufficient cause.

§ 10. It shall be unlawful, after the first day of January in the year one thousand eight hundred and eighty-five, for any person to practise as a pharmacist unless he or she shall have been granted a license by said board.

§ 11. Nothing in this act shall be so construed as to apply to the business of a practitioner of medicine, nor to prevent practitioners of medicine from supplying their patients with such articles as they may deem proper; nor to those who sell medicines and poisons at wholesale; nor to the manufacture or sale of patent or proprietary medicines; nor to the sale of the usual domestic remedies by retail dealers in the rural districts. And nothing in this act shall be so construed as to prohibit the employment in any pharmacy of apprentices or assistants, for the purpose of being instructed in the practice of pharmacy; but such apprentices or assistants shall not be permitted to prepare and dispense physicians' prescriptions, or to sell or furnish medicines or poisons, except in the presence of and under the personal supervision of a licensed pharmacist.

§ 12. All violations of the provisions of this act shall be deemed misdemeanors and shall be punished as such.

§ 13. This act shall not apply to the counties of New York, Erie, and Kings.

§ 14. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 15. This act shall take effect immediately.

THE English translation of the last German Pharmacopœia, by C. L. Lochman, is now ready at the publishers (J. H. Vail & Co., New York). As the work is so frequently required for reference by pharmacists in this country, the attention of all our readers is directed to it.

The only misprint so far noticed in the volume is on page 212, where in the title: *Tinctura Ferri Pomatia*, the last word should read: *Pomati*.

Substitution of Sodium Iodide for Potassium Iodide.

DR. BERG (*Arch. of Medicine*, April, 1884) enters a plea in behalf of the sodium iodide. Both from theoretical considerations and practical experience he urges the substitution of the sodium for the potassium salt. He makes the following claims for the iodide of sodium: 1st, it can be used therapeutically for almost all, certainly the chief purposes for which potassium iodide is used, and, he believes, with similar beneficial effects; 2d, sodium iodide is more assimilable than the iodide of potassium, both locally to the digestive organs and to the general system; 3d, many of the local and general undesirable effects which are produced by the potassium iodide do not follow the use of the sodium iodide. He concludes by saying that it is to be hoped, therefore, that the sodium iodide will be used by those whose clinical advantages admit of an extensive trial of the drug, so that a more extended experience may confirm that which a limited experience would seem to claim for this drug.

Iodoform not a Tænicide.

PROFESSOR SIM having announced that iodoform, in doses of about 0.06 (1 grain), was a prompt remedy for tape-worm or round-worms, and several other practitioners having confirmed this statement, Dr. Nikolsky made a systematic investigation of this supposed action of iodoform, and found that it produced an effect only in two cases out of twenty-three. Hence, it may be pronounced as entirely unreliable as a tænicide.

Excessive Use of Morphine.

DR. LIVINGSTON S. HINKLEY, in the *N. Y. Med. Journal*, reports a case of a woman of good physique, twenty-six years of age, weight 145, who is in the habit of taking daily eighty-five grains within twenty-four hours, which Dr. Hinkley believes to be the largest quantity of morphine taken by any living being within the time mentioned.

Chlorozon.

THIS is a name given by Dienbein-Browochski to a liquid produced by decomposing chloride of lime by hydrochloric acid, and conducting the generated gases through caustic soda. The liquid, when properly saturated, has a yellow color, a peculiar odor, and is a powerful bleaching agent. The peculiar substance contained in it is not identical with hydrochlorite of sodium. In a cool and dark place the solution keeps for a long time, decomposing only very slowly with elimination of oxygen. Dilute solutions keep better than concentrated ones. Addition of acids and of bromine increase the bleaching power. It is also reported to be a powerful disinfectant.

To Overcome the Odor of Chloroform.

PROF. NUSSBAUM has a few drops of oil of cloves placed on the towel before giving the anæsthetic. The addition of one part to six of cologne to ether makes it much more easy of administration.

Fellow's Syrup of the Hypophosphites.

IN the *Pharm. Rundschau* of New York (March, 1884), Dr. Adolph Tscheppe, of that city, publishes an article on this popular medicinal compound. After asserting the inaccuracy of a professed analysis of the syrup published by A. Gawalowski, of Brünn, the author explains his process of analysis, and concludes by giving the following formula, which, he states, will yield a product in every respect similar to the original:

Soluble phosphate or pyrophosphate of iron (U.S.P.)	15 grains.
Hypophosphite of sodium	45 "
Sulphate of Quinine	5 "
Strychnine (previously dissolved by itself)	½ "
Hypophosphite or sulphate of manganese	15 "

Thick syrup to make 16 oz. by w't

The salts are dissolved by gentle heat, but without the addition of acid.

The author remarks on the statement which has been published that each teaspoonful contains $\frac{1}{60}$ grain of strychnine, but he judges from his analysis that this proportion has since been reduced.

Kidney and Liver Cure.

A CORRESPONDENT, some time since, of the *Druggists Circular* remarked that although the following does not make "Warner's Safe Kidney and Liver Cure," "by a strange coincidence it is so like the article that it would trouble Mr. Warner or any one else to find the difference."

Liverwort	1 ounce.
Nitrate of potass.	320 grains.
Water	sufficient
Alcohol	2 ounces.
Glycerin	1½ "
Essence of wintergreen	40 drops.

Infuse the liverwort with one pint of hot water for two hours; strain or filter; dissolve the powdered nitrate in the liquid; when cold add the alcohol, glycerine and essence of wintergreen, and make up the measure to one pint with water. [See, also, page 118.]

Shoeblacking.

A BRILLIANT paste blacking may, according to Dick, be prepared by mixing 2 pounds ivory black, 1 pound molasses, ¼ pound each of olive oil and sulphuric acid, and enough water to reduce the product to the proper consistence.

Herr Artus recommends the following formula as less destructive to leather than most blacking in use: Mix thoroughly 3½ pounds vegetable black, 1½ pounds ivory black, 5 pounds each of molasses and glycerin; cut 6 ounces gutta percha into small pieces, melt, and, when fluid, add 20 ounces of olive oil, and afterward 2 ounces of stearin; stir, while hot, the second mixture into the first, and then a further addition of 10 ounces of gum senegal dissolved in three quarts of water is made. This may be kept as stock, and for use diluted with about three times its bulk of warm water.

For liquid blacking without sulphuric acid, mix 1 pound finely powdered ivory black, ½ pound molasses, 2 ounces sweet oil, and 1 pint each of beer and vinegar. Mix the first three ingredients very thoroughly together before adding the last two.

A better liquid blacking may probably be made by the following formula: Mix 1 pound each of ivory black and molasses and ½ pound of sweet oil, and gradually add ½ pound of sulphuric acid diluted with three times its weight of water, mix well, set aside for three hours. Reduce to proper consistency with water.

Owing to the calcium phosphate present in the ivory black, the sulphuric acid is provided with a base to unite with and does much less to injure the leather than is generally supposed. The addition of sulphuric acid greatly adds to the brilliancy of the blacking, but it should be used in no larger quantity than necessary for this purpose.—*Indiana Pharm.*

Giving Quinine to Children.

DR. F. E. DANIEL, of Fort Worth, Texas, recommends in the *Courier Record of Medicine* that the quinine, having been compressed into the smallest bulk, is to be placed in a half-teaspoonful of the white of egg, and covered with another portion of the albumen. Care must be used that the quinine does not come into contact with the spoon.

Ink for Type-Writer Ribbons.

ANILINE black, ½ oz.; pure alcohol, 15 oz.; concentrated glycerin, 15 oz. Dissolve the aniline black and add the glycerin.

The Ginger Beer Plant.

THIS is a startling or a sparkling little novelty, some account of which has been going the round of the journals, and which promises to provide all thirsty souls with a ready-made and refreshing gingerade during the coming summer. We do not prognosticate that it is calculated to produce any great alarm, or that it will revolutionize the Ginger Beer Trade; but still, like the "Vinegar Plant" which was, some few years ago, hailed with so much delight by frugal housewives, there is something in it, and that something appears to be a little fungoid growth or plant, which was first discovered in Norfolk, and consists of a mass of irregular white grains resembling cooked tapioca, or, still more, half-dissolved gum tragacanth when crushed in the fingers. A writer in the *Queen* remarks, "Would that I could introduce it with a high-sounding botanical name! but alas! I fear that if it has one at all, it must be far down among the Cryptogamia, for to the higher order it certainly does not belong. Its origin, like that of many illustrious discoveries, it lost in obscurity. It has been cynically asserted that its ancestor was a fungoid growth in a barrel, but these evolution questions are very delicate, and we may dismiss the charge as "not proven." The process of ginger beer brewing from this mysterious substance is as follows: Whatever vessel is used should be at least half-full of the grains. Fill to the top (a wide-mouthed pickled jar is best) with water that has boiled, and add several lumps of sugar—the quantity must be regulated by taste, as a hard-and-fast recipe is impossible. Once a week, on a fixed day, drop in a few pieces of root ginger, also at discretion. Every day, the water poured in twenty-four hours before must be carefully strained off through muslin, and bottled and corked securely. Some advise adding a little yeast, but if the grains in the jar are numerous enough to produce sufficient fermentation—*i.e.*, a decided froth—there is no need to add yeast. Replenish your jar with boiled water and sugar, and cover again with piece of linen or calico; on no account cork it. The liquid you bottle off is fit to drink in two days, and, to a not too critical palate, it forms a refreshing, mild gingerade, easily prepared, and certainly the cheapest of all possible drinks of the kind. Every week the exhausted pieces of ginger must be fished out. Avoid handling the grains. They increase rapidly and must be thinned out by pouring off when too numerous, forming new colonies and consequently a larger supply of gingerade.

Sticky Fly-Paper.

TAKE of

Resin, in clean pieces	4 ounces.
Castor oil	2 "

Melt together by means of a water bath, and spread on sized paper.

If it should be an advantage to have something sweet, it is probable that glucose, thickened by an addition of dextrin or gum, would be very attractive to the flies. But, as this mixture would be liable to soak through paper in very hot weather, it would probably be safest to spread it on paraffined paper.—*The Druggist.*

Arnica Jelly.

Starch	280 grains
Glycerin	4 oz.
Water	1 "

Mix; heat to 240°, or until the starch-grains break and the mass appears transparent. When nearly cool add tincture arnica, ½ oz., with oil of rose and red coloring to suit. An excellent preparation for chapped hands, face, etc.—*Chicago Pharmacist.*

Catarrh Inhalant.

Sulphuric ether	1½ oz.
Chloroform	1 "
Tincture iodine	½ "
" camphor	½ "
Oil of tar	½ "

Mix and inhale, closing the nostril after each inhalation and forcing the vapor into the nose.—*Chicago Pharmacist.*

Aquarium Cement.

	Oz.
Dry Venetian red	12
" carbonate of iron	4
" black oxide of manganese, pure	2

Beat into a thick mass or putty with boiled linseed oil.—*Chicago Pharmacist.*

On the Use of Steel Spatulas.

IT is a common belief that steel spatulas should not be used in making ointments containing mercury, nor brought into contact with them afterwards. J. F. Burnett has been making some experiments on the subject, and has communicated the result in a paper in the *Chemist and Druggist*. He finds that calomel, white precipitate, and mercuric chloride ointments are not in the least affected by contact with steel. Nor are the petrolatum ointments of the iodides, nitrate, or the oxides, but the lard ointments of the iodides and oxides exhibit a slight reduction, and the nitrate a very marked reduction. The author has altogether disburdened his mind of the old superstitions concerning the action of steel knives on the neutral ointments of mercury, and believes that for their manipulation steel spatulas are quite as good as those of bone, and more lasting and convenient.

Mullein as a Remedy for Cough.

THE use of mullein as a palliative for the cough of phthisis seems to be meeting with favor in various quarters. The customary form of administration has been a decoction of the plant in milk. More recently, the smoking of the leaves has been recommended as a more agreeable and effective mode of administration.—*Boston Medical and Surgical Journal.*

Notes on Commercial Drugs and Chemicals.

(From the April "Handelsbericht of Gehe & Co., of Dresden.)

Aconitine.—Gehe & Co. state that they employ, in the preparation of this alkaloid, only the tubers of *Aconitum Napellus* from the Swiss, Bavarian, and Austrian Alps. According to Dr. Kobert, of Strassburg, both the crystalline and the amorphous aconitine of Gehe & Co. [which should be designated as "*German aconitine*"], act about alike, the fatal dose for a frog being about $\frac{1}{50}$ milligramme, and $\frac{1}{10}$ milligramme for a rabbit. This "German aconitine" has been examined also chemically by Dr. v. Schroeder, who found that it yielded the theoretically required quantities of benzoic acid and aconine on decomposition. Hence it is concluded by Gehe & Co. that their aconitine is chemically pure. [It is a pity that the exact process by which this aconitine is prepared is not published. In the present state of our knowledge of the chemistry and pharmacology of this alkaloid, it seems that the only commercial kind of uniform and reliable strength is the French brand, viz., Duquesnel's, the average dose of which is about $\frac{1}{200}$ grain, and must be used with great caution even at that dose.—Ed. A. D.]

Agaricin—not an alkaloid, but rather of an acid character, is in active demand. It is reported to be very efficient against night-sweats.

Aloin.—Much in request, especially in England and the U. S. It is difficult to furnish at all times a product of uniform color, owing to the varying color of different lots of Barbadoes aloes, which is used for this purpose by manufacturers.

Aluminium.—Schering & Co., of Berlin, have acquired a patent by which this metal can be prepared electrolytically at about one-fourth its former price. It is, therefore, likely to become of much more general use than heretofore.

Ammonium bromide—as well as *Sodium bromide*, are steadily increasing in demand, while *Potassium bromide* is stationary, or rather receding.

Atropine.—Prof. Ladenburg has examined the refuse product of Gehe & Co.'s atropine manufacture, heretofore designated as "belladonnine," and has identified it as "oxytropine." Whether it has existed as such in belladonna, or has been produced in the course of manufacture through the agency of alkalies, cannot be decided as yet, but steps are being taken to clear up the doubt.

Benzoic Acid.—Artificial acid from the urine of horned cattle has disappeared from the market, but acid from horses' urine can be obtained. The quality of "urine" benzoic acid has improved so much that it is difficult to distinguish it from others.

Benzoin.—Attempts are about to be made to establish plantations of the benzoin-yielding trees in the East. The chief obstacle so far has been the uncertainty as to the true source of the different benzoins of the market, of which only one, namely, Sumatra-benzoin, is certainly known to be yielded by *Styrax Benzoin.*

Recently R. Jamie, of Singapore, has succeeded in obtaining pieces of the stem and leaves of the genuine Siam-benzoin tree. This is likely to be the first step towards a success of the undertaking.

Boroglyceride is highly recommended as a protection to the skin against sun-burn.

Bromine. — "Solidified" bromine [previously mentioned and described in this journal] is a solid, in form of sticks or pencils composed of kieselguhr (siliceous shells) saturated with three times their weight of bromine, which are dry to the feel, and may be handled. This article is put up in bottles of 250 and 1,000 Gm. ($\frac{1}{2}$ and 2 lbs).

Cainca root—the *Raiz preta* of the Brazilians, derived from *Chiococca anguifuga*, is again obtainable. It is employed as a powerful diuretic and purgative; in large doses it acts as an emetic. The active principle is caincic acid, in form of fine white, needle-shaped crystals soluble in ether and in alcohol.

Cannabine Tannate.—In place of the pure cannabine, the tannate is now preferred. It is in good demand (as a harmless but effective soporific).

Carbolic Acid.—While the demand for the crude liquid acid has been active, the consumption of the crystalline has decreased, owing to the introduction of more powerful and rapidly acting disinfectants and antiseptics. While carbolic acid requires, in some cases, a full week before destroying certain micro-organisms, corrosive sublimate, for instance, destroys them in ten minutes, and even more rapidly (in solution of 1 in 1000). Besides, the employment of corrosive sublimate, or of bromine, costs much less than that of carbolic acid.

Carbonic Acid Gas.—A large company has been organized which furnishes liquid carbonic acid gas in strong iron flasks, for the manufacture of carbonated waters, also for refrigerating or chilling purposes in technical works, or for facilitating the crystallization of refractory substances in chemical works.

Caroba Leaves, from *Jacaranda tomentosa*, are highly recommended as a diuretic and sudorific; also as tonic. They have long been used in Brazil, and are held in the same repute there as sarsaparilla in many other countries.

Cocaine has been found to dilate the pupil of the eye like atropine, and has been employed for this purpose, but very sparingly. It is not likely to displace atropine—particularly as it costs ten times as much—unless it should be found to possess other unexpected advantages.

Codeine has risen 50 per cent in price since the end of last summer, and the demand has been so brisk that orders could only be filled in the order in which they were received.

Collodion.—The introduction of bromated gelatin plates in photography have greatly diminished the use of collodion. *Gelatinized collodion*, however, for the instantaneous preparation of liquid collodion by the addition of ether, has been in considerable demand for America.

Cotton Plant Leaves.—The leaves of Gossypium barbadense have been in some demand, but Gehe & Co. are not aware for what purpose. Possibly as a substitute for cotton-root bark.

Curare and *Curarine.*—In view of the repeated complaints regarding the unreliability of curare, Gehe & Co. recommend the employment of the alkaloid, particularly the sulphate.

Ergotinine, prepared after Tanret, appears to become established as the most reliable preparation of ergot for hypodermic use (compare New Rem., 1883, p. 343). It has been used in doses of 0.0002 Gm. ($\frac{1}{3750}$ grain) to 0.0007 Gm. ($\frac{1}{90}$ grain), corresponding to 0.2 to 0.7 gm. of the solution sold by Gehe & Co., with very good success in various forms of neurosis and some cases of incontinence of urine.

The peculiar septic substance discovered in ergot by Dr. Kobert, of Strassburg — sphacelic acid — could not be prepared in a pure state, owing to its readiness to decompose. But during the manufacture of ergotinine, a resinous by-product was obtained (probably derived from the decomposition of sphacelic acid), which was found highly poisonous.

Ficus Doliaria.—The juice of [the fruit of] *Ficus doliaria* or *Ficus gemellaria*, is offered in London for sale. According to a report of Dr. Moncows (*Lancet*, 1882, p. 78), it has been found valuable in treating a peculiar form of anæmia occurring in Brazil. It is said to contain an active principle, *doliarine*, having also drastic and anthelmintic properties.

(To be continued.)

Cure for Nitric-Acid Burns.

Some weeks ago, in experimenting with "brown fuming nitric acid," I happened to splash a portion of this powerfully corrosive liquid upon the skin of my face. The pain caused, I need hardly say, was very acute, and in a few minutes an enormous blister arose upon the part affected. Copious application of cold water, then of such powerful bases as ammonia, potash, and lime in water had no perceptible effect upon it, except, perhaps, to increase the violence of the inflammation. After a few minutes, however, I luckily bethought me to try the effect of a dilute solution of sulphurous acid, of which I had a good supply made but a short time previously. Assuming that the action of the strong nitric acid was an intensified process of oxidation, I cast about for a reducing agent which might safely be trusted to be innoxious, even if it did not afford much relief. The effect of its application was astounding. In a very few minutes, the blister was reduced; the oxidizing process of the strong acid was completely arrested, without having reached the roots of the hairs on the face; the painful irritation was completely removed, and in an incredibly short space of time the wound healed.

I do not write to suggest a repetition of such a painful, though interesting experiment, but to record the result of my experience for the benefit of others. —A. Irving, in *Chem. News.*

Condensed Mares' Milk.

A firm has lately been established under the name of Carrick's Russian Condensed Mares' Milk Company, for the purpose of preparing this new dietary (or medicinal) product. It possesses a large number of mares, specially kept for the purpose of yielding milk, in the plains about fifty miles from Orenburg (Russia), upon Asiatic territory. The factory is also situated there.

According to P. Veith, the contents of two cans of this condensed milk, prepared in the summer of 1883, consisted of a very thick viscid mass of almost pure color, agreeable odor, and pure, somewhat honey-like taste. It was easily and almost completely soluble in water to a pure white liquid. A few small undissolved flakes evidently consist of coagulated albumen. Solutions prepared in the proportion of one to seven showed specific gravities varying from 1.033 to 1.036. The analysis of two samples gave the following results:

Water	26.73	24.04
Solids	73.27	75.96
Fat	4.77	6.20
Protein	13.69	12.17
Sugar	53.07	55.81
Ash	1.74	1.78

—*Milchzeitung* and *Dingl. Pol. Journ.*

[It is possible that the substitution of this for cow's milk will be of value to those who wish to make kumyss.—Ed. Am. Dr.]

Ichthyol.

This substance, of which we gave an account in our last volume (New. Rem., 1883, p. 197), is reported by Baumann & Schotten to be the sodium salt of an acid, for which the formula $Na_3C_{28}H_{36}S_3O_6$ is given provisionally.—*Chem. Centralbl.*

The Color of Water.

THE following abstract from a paper on this subject by W. Spring (in *Biederm. Centr.*, 1883, 289) will be of interest.

Fresh distilled water in tubes 5 meters × 4 cm. appears of a sky-blue color, which, however, changes after a few hours to a pale green ; but if 0.0001 of mercuric chloride is added to the original water, no change occurs ; if it be added to the green water, a blue-green tint is obtained, but never the original color ; it is therefore concluded that the change from blue to green is effected by minute organisms. A beam of light sent through the column of water is invisible (laterally ?), consequently the color is natural to the water and not to reflection from minute particles. Amyl and ethyl alcohol and acetic acid are colorless. Pure blue water treated with lime and then with carbonic anhydride appeared at first black, changing to brown, yellow, and green ; similar results were obtained with baryta-water containing free silicic acid and sodium silicate. The final conclusions drawn are :—light does not pass through a thick layer of water containing solids in suspension ; the yellow color is due to suspended matter, or to that matter forming a saturated solution ; as carbonates are deposited, the color approaches more nearly to blue. In natural blue waters, calcium and magnesium carbonates, silica and alumina are in solution ; whilst in the green they are partly undissolved through a deficiency in the carbonic anhydride. In the Blue Rhine we have 786 $CaCO_3$ and 79.5 $C.O_2$ and 76 CO_2.—*Journ. Chem. Soc.*

Test for Nitric Acid in Water.

ACCORDING to Williams, a strip of zinc which has been coated with copper by being placed into a three-per-cent solution of sulphate of copper is immersed into the liquid to be tested. Any nitric acid present is thereby converted into ammonia, which is precipitated by mercuric chloride as amido-chloride of mercury (white precipitate). If the water to be tested contains ammonia besides, the latter is determined by a separate assay, and deducted from the other.

About Doses.

IN a paper by Dr. J. B. Roberts, of Philadelphia, entitled "Seven Common Surgical Follies" (*The Polyclinic*), the writer says:

The dose folly is the last topic I shall discuss with you this evening. I should, perhaps, term it the *small* dose folly, for I refer to the practice of administering insufficient doses of medicines. The fault pertains, of course, to medical as well as to surgical practice. Nearly every year of my professional life leads me to increase the dose of some one or other of the articles that I am accustomed to use. Of what use is a sixteenth or an eighth of a grain of morphia to a man with severe pain ? Give him a quarter of a grain or even a half, repeated, if necessary, and he will soon be comfortable and thankful. Perhaps he will also pay his bill. The medical requirements of to-day are drugs and doses with inherent power. You can't lift a block of granite with a weak crowbar; neither can you cure agony with a debilitated dose of anodyne. So it is with all other remedies. If any medication at all is required, give that which will do the work, and do it promptly. A few large doses will dispel the symptoms and cure the patient, when months of nonsensical drugging with emasculated remedies will bring nothing but discredit to the practitioner and obloquy to medical science. I have spoken of morphia as a type, but the same remarks hold good concerning quinia, atropia, strychnia, digitalis, iodide and bromide of potassium, mercury, pilocarpine, and, indeed, of all our remedies. Use the alkaloids or active principles in every case. Then you will know what you are giving, and you will soon learn that much larger doses are tolerated than is usually thought possible. Many physicians and surgeons fail to cure, not because of faulty diagnosis, not because of inappropriate remedies, but because of insufficient dosage.

DR. F. WARNER, of Columbus, Ohio, in a paper in the *Lancet and Clinic* of April 26th, argues in favor of small doses frequently repeated as giving better results than larger doses at longer intervals, and mentions the use of $\frac{1}{120}$ grain of sulphate of atropine every four hours in the night sweating of phthisis as acting better than $\frac{1}{40}$ grain given at bed-time. The same is likewise true of the remedy when used in enuresis.

Half-teaspoonful doses of tincture of aloes, or a corresponding dose of the solid extract, every four hours, will better remove ascarides from the rectum than a single dose or the occasional use of injections. He also cites a case in which $\frac{1}{100}$ grain of sulphate of strychnine rapidly cured a case of lack of tone of the bladder sphincter in an adult male.

Percentage of Quinine in Different Salts of the Alkaloid.

ACCORDING to Tanret, the salts of quinine in common use contain the following proportions of the alkaloid:

	Per cent.
Acetate	87.34
Hydrate (quinine precipitated and dried)	85.70
Basic chlorhydrate	81.60
Lactate	78.26
Basic bromhydrate	76.60
Valerianate	76.05
Basic sulphate (the ordinary sulphate)	74.30
Sulpho-vinate	72.00
Neutral bromhydrate	60.00
Neutral sulphate (or acid sulphate)	57.24
Tannate	20.60

—*Detroit Lancet.*

Method of Preserving Glycerite of Gelatin.

MR. A. BERGHOLZ states that he has employed for more than six years a method for preparing glycerite of gelatin without the addition of antiseptics such as β-naphthol or salicylic acid.

Since the compound is now employed in surgical and dermatological practice, it may be of interest to learn his method.

A weighed quantity of gelatin is well washed with cold water to remove adhering sand or dust. It is then soaked in cold water during a few hours, and finally weighed, in order to ascertain how much water it has absorbed. Ordinarily a good jelly is obtained if one part of gelatin has absorbed two parts of water. The softened gelatin is put into a capsule, which is warmed upon a steam or water-bath. When the mass is liquid, a mixture of a definite quantity of glycerin and alcohol is added, and, after thorough mixing, the perfectly clear solution is poured into bottles, which should be well stopped. When requiring any of the mixture for use, the bottle is put into warm water until the jelly is melted, and a sufficient quantity then poured out.

As is well known, gelatin is precipitated by the direct addition of alcohol, but a mixture of glycerin and alcohol may be added to gelatin in all proportions, and the relative proportions of these liquids will depend upon the purposes for which the jelly is to be used. —*Pharm. Zeit. f. Russl.*, 1884, No. 6.

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THE CINCHONA BARKS : Pharmacognostically Considered. By FRIEDRICH A. FLUECKIGER, Ph.D., Professor in the University of Strassburg, Germany, and Author of "Pharmaceutical Chemistry." Translated from the original text, with some additional notes. By Frederick B. Power, Ph.D., Professor of Pharmacy and Materia Medica in the University of Wisconsin. With eight lithographic plates and one woodcut. Philadelphia: P. Blakiston, Son & Co., 1884; pp. 103. 8vo. $1.50.

THIS work is especially opportune, owing to the rapid advances that have recently been made in our knowledge of the barks yielding quinine and its congeners. No one is better fitted to write upon the subject than Prof. Flueckiger, and the publishers have given us a sumptuous translation which is a credit to their good taste.

THE CALENDAR OF THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN. 1884. London. Printed for the Pharmaceutical Society of Great Britain. pp. 510. 8vo. 1*s.* 5½*d.*

THIS is not only a list of the members, associates, and apprentices, but contains also the laws regulating the practice of pharmacy in Great Britain, the by-laws of the Society, the names of the prizemen and scholars, from the foundation of the Society, facts relative to the benevolent fund, etc.—in fact, a complete hand-book of matters connected with the legal aspects of pharmacy in the Kingdom.

FEMALE HYGIENE AND FEMALE DISEASES. By J. K. SHIRK, M.D., etc. Lancaster, Pa.: The Lancaster Publishing Co., 1884; pp. 107. Sm. 8vo.

THIS is intended for the instruction of non-professional persons, and, considering the difficulty of handling the subject in a manner adapted to the class it is intended to reach, it has been done very well. Its teachings are conservative and its directions quite as clear as could well be expected.

THE MEDICAL DIRECTORY OF PHILADELPHIA FOR 1884. Edited by SAMUEL B. HOPPIN, M.D. Philadelphia: P. Blakiston, Son & Co.; pp. 205. 8vo. $1.50.

THIS is a very carefully made and, evidently, complete directory to the public medical and charitable institutions, medical societies and colleges, dentists, nurses, medical laws, municipal and government medical services, etc., and gives, moreover, the names and addresses of all the registered physicians of Philadelphia, arranged according to the sectarian or non-sectarian nature of their qualifications, and in the form of a street list. It is handsomely published and in every respect one of the best works of its kind.

THE STUDENT'S GRAMMAR OF LATIN. Indispensable in Pharmacy and Medical Science. For the First Instruction in the Fundamental Rules of Latin, with the Correct Roman or Continental Pronunciation. Appendix containing Miscellaneous Notes. By ADOLPHUS F. W. NEYNABER, Sr. Detroit, 1884; pp. 33.

THIS is especially adapted for students of pharmacy, and gives a great deal of information in condensed form.

SHAKESPEARE AS A PHYSICIAN. Comprising Every Word which in Any Way Relates to Medicine, Surgery, or Obstetrics, Found in the Complete Works of that Writer, with Criticisms and Comparisons of the Same with the Medical Thoughts of To-day. By J. PORTMAN CHESNEY, M.D., Ex-Secretary of the Medical Society of Missouri, etc. St. Louis: J. H. Chambers & Co., 1884; pp. 226. 8vo.

THE author has evidently studied the writings of Shakespeare with great

care, and, besides the quotations from his works, has added, in the way of comment, much that is of interest, although the connection is sometimes not very apparent.

ELEMENTS OF PHARMACY, MATERIA MEDICA, AND THERAPEUTICS. By WILLIAM WHITLA, M.D. (Q. U. I.), Physician to the Belfast Royal Hospital, etc. With Lithographs and Woodcuts. Second Edition. London: Henry Renshaw, 1884; pp. 26. 10*s.* 6*d.*

THIS is one of Renshaw's series of manuals for medical and pharmaceutical students, and is based upon the British Pharmacopœia. It contains, however, much information concerning the nature and uses of many things as yet unofficinal, and is especially strong in its practical details. It is, as well, a very good book for general reference.

A SELECTION OF DIALECTIC POEMS. Written on the Rail and Dedicated to the "Army of the Gripsac" by HARRY HOLLAND (H. J. Richardson), who, Aside from the Pleasant Task of Trying to Amuse his Associates with this Collection of Scraps, has the honor to represent Seabury and Johnson, Manufacturing Chemists, New York and London. Boston: Travelers' Publishing Co., 1884; pp. 105.

WE have read it and enjoyed it and await with pleasant anticipations the appearance of more of the same sort.

THE MEDICAL ANNUAL AND PRACTITIONER'S INDEX. A Yearly Record of Useful Information on Subjects Relating to the Medical Profession. London: Henry Kimpton; New York: Putnam & Co. 1883-4; pp. 305. Sm. 8vo.

THIS is the production of Percy R. WILDE, M.D., and contains a great variety of information likely to be useful to a physician, and of a nature to make it a useful work for his table. "The Year's Work" relates chiefly to some of the advances in therapeutics. The "Index of Journals Referred to" would be better if it gave the address of the publisher and price of subscription. The "Health Resorts" are European. The "Sanitary Memoranda" are good. "Medical Education" is calculated to be of service to many British students, and the sections relating to Hospitals and devoted to a Medical Gazetteer are of local interest. There are many tables and items of information, which are of general application, however, and the book must supply a want.

GRUNDRISS DER PHARMAKOGNOSIE. Von F. A. FLUECKIGER. 8vo. Berlin: R. Gaertner's Verlagsbuchhandlung (Hermann Heyfelder). 1884.

THIS "Outline of Pharmacognosy" from the pen of the most competent authority is chiefly intended for beginners, but may also be profitably consulted by all who desire to put themselves "au fait" regarding all essential and important physical and chemical characteristics of the officinal and most commonly used unofficinal drugs, without having to search in a more detailed work. While the larger work on the same subject, by Prof. Flückiger, arranges the drugs in classes according to their similarity *as drugs*, this smaller work treats of them in the order of the natural families, which Prof. F. finds also more convenient in teaching and lecturing on the subject than the other. The animal drugs, which are excluded in the larger work, are added in the present.

In view of the large extent of the field and the great number of facts to be considered, the text is as full and complete as could be expected.

The author has accomplished a difficult task in selecting from the immense number of facts to be considered, those which are of paramount weight and importance. In doing so he has been uniformly successful. We can recommend the work to all students of pharmacy or medicine able to read German and have no doubt that it would be highly appreciated in an English garb.

WURTZ'S ELEMENTS OF CHEMISTRY. By ADOLPH WURTZ (Senator), etc. Second American Edition. Translated and edited, with the Approbation of the Author . . . by WM. H. GREENE, M.D., Professor of Chemistry in the Central High School, Philadelphia, Memb. of the Am. Philosoph. Soc., of the Chem. Soc. of Paris and Berlin, etc. (132 ill.). 8vo. London and Philadelphia: J. B. Lippincott & Co. 1884.

IN noticing the first edition of Wurtz's chemistry (NEW REM., 1879, 247), we already drew attention to various distinguishing features of this text-book of chemistry. The issue of a second edition, in these days of innumerable "chemistries," is a sure sign that the work is appreciated and used in practice. Unfortunately the illustrious author has been called away from our midst quite recently, and the pen which wrote the original is now still; nevertheless, we are quite sure that, like many other of Wurtz's works, this text-book, so ably edited by Dr. Greene, will live long and exert its proper measure of influence upon the learning generation.

QUERIES & ANSWERS.

Queries for which answers are desired, must be received by the 5th of the month, and must in every case be accompanied by the name and address of the writer. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for information respecting an unusual or proprietary compound, always accompany the query with all the information you may possess respecting it, and, when it can conveniently be done, send a specimen of the label.

No. 1,284.—**Albuminate of Iron** (J. S.).

In our volume for 1880 (NEW REM., 1880, p. 210) we gave an abstract of a paper by Professor C. Lewis Diehl, together with a working formula, which we repeat here.

Ten troy ounces of white of egg are diluted to 20 fluidounces with distilled water, a solution of 125 minims of solution of chloride of iron, U. S. Ph., in 10 fl. oz. of water is added, and the solution filtered. To the filtrate are added 10 fl. oz. of a saturated solution of common salt, the precipitate which is produced collected on wetted muslin, washed with a dilute solution of common salt (1 volume of saturated solution of NaCL, and 3 volumes of water), drained, powerfully expressed and dried. The resulting product, dry albuminate of iron, amounts to a little over 12 per cent of the white of egg used, on an average.

A recent formula published by Mr. O. Schlickum is as follows:

Fresh white of egg	100 parts.
Solution of chloride of iron, Germ. Ph.	5 "
(Equivalent to Solution of chloride of iron, U. S. P.	3.83 ")
Water	100 "

Dilute the white of egg with the water, allow to settle, pour off and strain the liquid portion, and add the solution of chloride of iron. Shake the mixture thoroughly and warm it gently until it has become clear. Then evaporate it at a temperature not exceeding 40° C. to a syrupy consistence, spread it in a thin layer upon plates of porcelain or glass, and dry it completely at a gentle heat.

The product is in form of yellow scales, or a yellow, dry powder, which keeps unaltered even when exposed to air, and yields a turbid, yellowish solution with hot water.

It contains nearly 4 per cent of iron.

Mr. Schlickum adds the following comments:

The ferric chloride forms with the white of egg a coagulum which is easily dissolved by hot water. If both substances are used in the above-named proportion, neither of them will be in excess. If an excess of ferric chloride is used, the product is soluble to a clearer liquid. The object of diluting the white of egg with water is, to aid in removing the cell membranes; the latter remain behind on the strainer.

The yield of product is 13 to 14 parts.

Schlickum assigns to it the problematical formula:

$$(C_{72}H_{110}N_{18}O_{21})_2.Fe_2O_3$$

Hirsch (in Supplem. zur zweiten Ausg. der Pharm. Germ.) gives the following process:

Mix 10 parts of white of egg with 40 parts of water, and strain. Shake the strained liquid first with 30 parts of a saturated solution of chloride of sodium, and afterwards with a mixture of 9 parts of solution of chloride of iron (Germ. Pharm., spec. gr. 1.281). Set the mixture aside for twelve hours, in a cold and dark place; then add 300 parts more of water, shake again energetically, allow to settle, collect the precipitate upon linen, wash it with water, press, and dry.

Hager prepares it in a similar manner, but adds to the still moist product such a proportion of sugar that the dry preparation contains about 1 part of albuminate of iron and 9 parts of sugar.

No. 1,285.—**Preparation of Cantharidin** (W. A. S. & Co.).

The following is one of the methods by which the active principle of cantharides may be extracted:

Coarsely powdered cantharides are extracted in a percolator, by means of chloroform; the chloroform is distilled off on the water-bath, and the residue repeatedly treated with disulphide of carbon, for the purpose of removing the adhering green oil. The residue is then dissolved in alcohol treated with a little animal charcoal, the solution filtered and evaporated to dryness in a retort. The residue is dissolved in the smallest possible quantity of chloroform, with the aid of a very gentle heat, and the solution allowed to evaporate spontaneously, so as to crystallize.

Yield, up to 0.6 per cent.

Properties. Cantharidin has the composition $C_{10}H_{12}O_4$ (mol. w. 196). It appears in form of colorless and odorless neutral, shining, rhombic lamallæ, which melt at 210° C., and when further heated, sublime in form of fine, white needles. It slightly volatilizes already with the vapor of water. It is soluble in about 3,330 parts of alcohol (spec. gr. 0.820), in 1,660 parts of disulphide of carbon, in 900 parts of ether, in 500 parts of benzin, and in 83 parts of chloroform. In water it is almost insoluble, more readily soluble in glacial acetic acid, acetone, acetic ether, fatty and ethereal oils, and particularly in formic acid. When heated with potash, soda, or ammonia, it takes up water and is converted into cantharidic acid, which forms easily soluble salts with bases, from which the cantharidin again separates on the addition of an acid.

The vesicating power of cantharidin is from 200 to 250 times greater than that of cantharides.

A practical way of applying it is in form of collodium, which latter dissolves it without difficulty. Or, a small quantity may be intimately triturated

with oil, and afterwards combined with some plaster.

No. 1,286.—**Kairine** (Several inquirers).

In addition to what we have previously published on this new febrifuge (see our March number, page 54, where reference is also made to previous articles), the following description and requirements of purity, which are given by Dr. Hirsch in his Supplement zur 2ten Ausg. der Pharmacopœa Germ. will be found of especial interest.

Kairine.

$C_{11}H_{15}ON.HCl = C_9H_9(OH)(N.C_2H_5), HCl = 213.5$

Kairine, which has of late rapidly acquired a reputation as an antipyretic, is, chemically speaking, the hydrochlorate of ethyl-hydro-oxy-quinoline [or -chinoline]. It is prepared by treating *quinoline* (itself prepared by heating a mixture of aniline nitrobenzol, glycerin, and sulphuric acid) with fuming sulphuric acid, whereby it is converted into *quinoline-sulpho-acid* $C_9H_6(SO_3H)N$. This substance is fused with soda and converted into *oxy-quinoline* $C_9H_6(OH)N$. By treatment with hydrogen in a nascent state, the latter takes up four atoms of hydrogen, and is converted into *hydro-oxy-quinoline*, $C_9H_9(OH)(NH)$. Next, the hydrogen of the NH-group is replaced by ethyl, C_2H_5, which produces *ethyl-hydro-oxy-quinoline*, $C_9H_9(OH)(N.C_2H_5)$, and this is finally converted into a hydrochlorate. The resulting salt has been named, for short, *kairine*.

Kairine forms colorless and odorless, small, rather thick prisms of a saline, then pungent, camphoraceous and cooling taste, which persists for a long time. It is soluble in cold and warm water, less soluble in alcohol; nevertheless the concentrated aqueous solution is not rendered cloudy by the addition of alcohol nor by the subsequent addition of ether. The solution becomes gradually oxidized and colored on exposure to air; hence kairine should only be dispensed in a *dry* form, either in powder or in wafer-capsules. If it must be given in solution, it should, at all events, be dissolved in water or in wine only just before it is taken. When cautiously heated, kairine volatilizes sometimes with decrepitation, already before it melts; at a slightly elevated temperature it melts, turns brownish, gives off inflammable vapors, and leaves behind an easily combustible ash. The vapors have a faintly aromatic odor, and affect neither the eyes nor the air-passages.

Carbonate of sodium produces, in the aqueous solution of kairine, a copious white precipitate of ethyl-hydro-oxy-quinoline, which cakes together, on shaking, to cheesy flakes, rendering the liquid clear. These flakes, when warmed, melt to small, clear, colorless drops, which shortly afterwards change into small crystals, melting at 74°–75° C., and acquiring a brown color on exposure to air. With nitrate of silver, kairine yields an immediate precipitate of chloride of silver, becoming black after a short time. Towards hydrosulphuric acid and sulphide of ammonium it is indifferent. Ferric chloride colors its solution brownish-red. In the solution, acidulated with sulphuric acid, ferrocyanide of potassium produces a crystalline precipitate, soluble in much water. The neutral solution of kairine is colored yellow by bichromate of potassium, this color afterwards changing to brown, dirty-green, and afterwards bluish-violet.

The acidulated solution of kairine is colored blood-red upon the addition of nitrite of potassium, but no immediate precipitate is produced. If, however, any traces of hydro-oxy-quinoline are still present in it, an immediate precipitate is produced by the nitrite.

Kairine may be contaminated by a poisonous ammonium base having the composition $C_9H_9(OH)[N(C_2H_5)_2Cl]$, which may be detected by precipitating the aqueous solution with soda, filtering, shaking the filtrate with ether (to remove any remaining traces of ethyl-hydro-oxy-quinoline), concentrating the aqueous liquid by evaporation, and treating with diluted sulphuric acid and ferrocyanide of potassium, whereby a white precipitate is produced if the above poisonous base is present.

No. 1,287.—**"Capuchin" Liquor** (M. S.).

A preparation of this kind is known in Europe. It is a sort of "Bitters," and is said to be prepared according to the following formula:

Celery root, fresh	10½	oz.
Orange peel, bitter	9	"
Lemon peel, fresh	9	"
Cinnamon, ground	7	"
Staranise, "	2¼	"
Caraway, "	2¼	"
Galangal, "	2¼	"
Nutmeg, "	2¼	"
Cubebs, "	1	"
Cardamom, "	1	"
Calamus, "	1	"
Alcohol, 60%	6	gall.

Mix and distil off 18 quarts (which will contain about 72% of alcohol). To the distillate add

Water	4½	qts.
Syrup	13¾	"

Color it light-brown with caramel.

No. 1,288.—**Marine Glue, Liquid or Solid** (M. J. & S.).

"Liquid Marine Glue" is a compound prepared by digesting 1 part of finely cut caoutchouc, during about 10 to 14 days, with 10 parts of oil of turpentine at a very gentle heat, and under frequent agitation.

This liquid is used for rendering wood, ropes, tissues, etc., water-proof, by applying one or more coats.

What is usually known as "Marine Glue," without the distinction "liquid" or "solid," is prepared by proceeding exactly as stated above, and then, adding to the solution 2 parts of shellac, or better, of asphalt (for every 1 part of caoutchouc employed). The mixture is heated in an iron pot until it has become completely homogeneous, and does not give off volatile vapors. During the heating the mass must be carefully stirred, and the temperature should not be allowed to exceed 140° C. (284° F.). It is then poured out into capsules. For use, one of the latter is heated on a water-bath until the contents are melted, when it is transferred to a sand-bath, and cautiously heated to near 140° C. The edges to be cemented together must be warmed, coated with a thin layer of the marine glue, and then firmly stuck together.

No. 1,289.—**Stamping Ink** (Utilis).

A good ink for rubber stamps may be prepared thus:

Solid Aniline color	16	parts.
Boiling, distill. water	80	"
Glycerin	7	"
Syrup	3	"

Dissolve the proper aniline color in the boiling water and add the other ingredients.

It is usual to select either black, blue, or violet, or red aniline colors. Any dealer in colors will know what kinds are suitable. They must be water-soluble, of course. Nigrosine, methyl-blue, Hoffmann's violet, methyl-violet, and eosine are probably the best for general use.

A good stamping ink should not dry quickly upon the pad, but on the other hand, should dry rapidly when applied by the stamp to paper.

No. 1,290.—**Oil of Hyoscyamus** (Nashville).

Several European pharmacopœias, as for instance the German, contain formulæ for the preparation of this oil, which is nothing else but a solution of chlorophyll and other constituents of the fresh plant (including some of its active principle) in olive oil. These preparations are very old. The formula is as follows:

Oleum Hyoscyami.

(or Oleum Hyoscyami coctum).

Hyoscyamus, cut, *four parts*	4
Alcohol, *three parts*	3

Macerate a few hours; then add

Olive Oil, *forty parts*	40

and digest, on a steam-bath, stirring occasionally, until the alcohol is evaporated. Finally express and strain.

The product should have a brownish green color.

No. 1,291.—**Soothing Syrup** ("Aloes").

Some years ago, Dr. Hager published an analysis of Mrs. Winslow's Soothing Syrup, according to which it contained:

Syrup	8 parts.
Tincture of fennel	1 part.

The latter is prepared, according to Dr. Hager, by extracting ten parts of freshly-ground fennel with sixty parts of ninety per cent alcohol, and the addition of one part of oil of fennel.

Whether the sample Dr. Hager analyzed was specially "prepared" for him, we cannot say. At all events, others have reported that the preparation contains morphine (about one grain to the ounce) or opium in some form. Others, again, have found it absent. We have never analyzed it ourselves.

The Editor has, however, been informed by one who is intimately acquainted with the proprietor and manufacturer of "Mrs. Winslow's Soothing Syrup," that he has repeatedly been assured by Mr. Curtis that morphine has never entered into its composition. There is quite as much probability that the specimens found to contain morphine were fraudulent, as that the salt is introduced by the rightful owners of this article.

No. 1,292.—**Distinction between Blue Coloring Matters** (M.).

This correspondent desires to know how he may distinguish between wash-blue made from indigo and that made from Prussian blue; also between the different kinds of blue ink; or between the different blue coloring matters in general.

A short, practical method is that proposed by Bolley and supplemented by Gawalovski. In the following scheme, the behaviour of each coloring matter towards 1, hydrochloric acid (HCl); 2, caustic soda (NaHO), and 3, red heat is recorded. Only the more common blue coloring matters are noticed.

Aniline blue.

1. (HCl.) Unchanged in dilute acid; in concentrated acid greenish-blue, resuming its original tint when diluted.
2. (NaHO.) Becomes violet to flesh-colored, depending on the original tint.
3. (Heat.) Only trifling ash.
4. Chloride of lime destroys color gradually; permanganate of potassium and sulphuric acid decolorize.

Blue Ink.

Evaporate, and treat residue as stated under the several colors.

Indigo.

1. (HCl.) Unaltered when touched with the acid.
2. (NaHO.) Yellowish-brown; turned blue again by acids.
3. (Heat.) Leaves much ash.
4. Nitric acid decolorizes it. It is soluble in water.

Litmus and other Lichen-blues.

1. (HCl.) Turns red; is partly dissolved.
2. (NaHO.) Unchanged, or turning rather more intensely blue.
3. (Heat.) Destroys the color. But

as the coloring matter is usually fixed upon a very large proportion of gypsum, all the latter remains as ash.

4. Soluble in water; less so than indigo.

Ultramarine.

1. (HCl.) Destroyed, with evolution of hydrosulphuric acid gas.

2. (NaHO.) remains unchanged.

3. (Heat.) Color disappears; most of the substance remains as ash.

Wash-Blue.

Evaporate and treat residue as stated under the several colors.

No. 1,293.—**Stoughton Bitters** ("Scruple").

We select the following from our files, as it appears to have more probability in its favor than the others:

Gentian	3 oz.
Serpentaria	2 "
Orange Peel, bitter	2 "
Calamus	½ "
Cardamom	¼ "
Red Saunders	1 "
Alcohol	q. s.
Water	q. s.

Reduce the solids to a moderately fine powder, moisten them with a mixture made from 2 volumes of alcohol and 6 volumes of water, pack in a percolator, and percolate until 1 gallon of liquid is obtained.

According to some, the red saunders is omitted, and the percolate colored with carmine coloring and caramel.

No. 1,294.—**Chlorodyne** (Ana).

There are perhaps thirty or forty formulæ published, all of which pretend to produce a compound similar to the original. Yet many of them apparently are far from the intended object. When we were engaged in the preliminary revision of the U. S. Pharmacopœia, we obtained a compilation of all known published formulæ, and arrived at the conclusion that the formula which comes nearest to the original is probably that of Squire. But even this contained some incongruities, as, for instance, powdered extract of licorice which is not wholly soluble in the liquids; hence, we recommended a slight change, and proposed the following formula (in *Report on the Revision of the U. S. Ph.*, New York, 1880, page 82):

	Parts
Hydrochlorate of Morphine	1
Oil of Peppermint	2
Stronger Ether	40
Alcohol (0.820)	48
Molasses	80
Diluted Hydrocyanic acid	114
Fluid Extract of Licorice	150
Purified Chloroform	330
Simple Syrup	1,235
Total	2,000

The resulting product, however, differs materially, both in appearance and taste, from the original. Yet it possesses the merit of being made after a known formula.

Dr. J. H. Gilman, of Lowell, Mass., some years ago, proposed the following, in which the ingredients form a perfect solution, and which can be diluted with 10 parts of water without separation:

Chloroform	2	fl.oz.
Ether, stronger	½	"
Alcohol (0.820)	8	"
Oil of Peppermint	24	min.
Tincture of Capsicum	6	fl.dr.
Tincture of Card. Co.	2	fl.oz.
Fluid Extract of Licorice	2	"
Diluted Hydrocyanic Acid	1	"
Glycerin	16	"
Sulphate of Morphine	40	grains

Mix in the order quoted, and shake until dissolved.

New Formula.

Some experiments lately made by us have led us to the following formula, which we believe comes closer to the original than any other:

	Parts
Hydrochlorate of Morphine	2
Water	50
Tincture of Peppermint	1
Tincture of Capsicum	1
Ether	2
Chloroform	10
Dilut. Hydrocyanic Acid	114
Fluid Extr't of Licorice	30
Molasses	1,790
Total	2,000

No. 1,295.—**Proof Spirit** (F. F.).

"Proof spirit" is so called from a peculiar crude method by which the strength of alcohol was formerly determined by the British excise officers. A certain amount of the alcohol or spirit was poured on a definite quantity of gun-powder, and a light was then applied. If the spirit was above a certain strength ("proof"), the gun-powder ultimately ignited; but if weaker, the gun-powder was too much wetted by the water mixed with the spirit, and the latter was then said to be "under proof."

According to an Act of Parliament, proof spirit is at present defined, in Great Britain and all its dependencies, to be a liquid of such density that "at 51° F. thirteen volumes shall have the same weight as twelve volumes of water at the same temperature." The "proof-spirit" corresponding to this requirement has a specific gravity of 0.91984 at 15.5° C. (60° F.), and contains 49.24 per cent *by weight* of alcohol and 50.76 of water. Any spirits weaker than the above are said to be "under proof" or "below proof" [U. P.], either by so many degrees or by so much per cent.

Pure water is 100 degrees under proof; proof spirit is 0 degrees. Hence a spirit which is 30 degrees (or 30 per cent) under proof contains, in 100 *volumes*, 70 volumes of proof spirit and 30 volumes of water.

Spirits which are "over proof" are described in a different manner, namely, according to the number of volumes or measures of proof spirit which 100 volumes or measures of it would yield when diluted with water. For instance, spirit of 50° "O. P." is alcohol of such a strength that 100 measures at 60° F., when diluted with water to 150 measures, would produce proof spirit. Absolute alcohol is, therefore 75¼° O. P., and contains "175½%" of proof spirit; since 100 volumes of it diluted with water yield 175½ volumes of "proof spirit."

In the United States, the term "proof spirit" has a somewhat different signification. According to law, "proof spirit shall be held and taken to be that alcoholic liquid which contains *one-half its volume* of alcohol of a specific gravity of seven thousand nine hundred and thirty-nine ten thousandths (0.7939) at sixty degrees Fahrenheit," referred to water at its maximum density. Therefore, proof spirit has, at 60° F., a specific gravity of 0.93353, 100 parts by volume containing 50 parts of absolute alcohol (by volume) and 53.71 parts of water. [The apparent excess in volume of the water is due to the fact that the mixture *shrinks*, and will then form exactly 100 volumes.]

Now, the hydrometers used by government are so graduated as to indicate the number of parts by measure or number of volumes of proof spirit contained in 100 volumes of the spirit tested, at the temperature of 60° F. That is, in pure water, the hydrometer will stand at 0 degrees, in absolute alcohol at 200 degrees, and, in proof spirit at 100 degrees. Absolute alcohol is, therefore, 100 degrees over or above proof; a spirit of 10 degrees (or per cent) over proof, or as it is more commonly called, one of "110 proof" would contain 55 per cent by volume of absolute alcohol.

If you inspect the alcohol tables of the U. S. Ph. of 1880, you will notice that "*proof spirit*" is there interpreted as spirit of a spec. gr. "0.9198," at 60 F. Since the Committee of Revision decided to insert Hehner's Tables, which were the most detailed ones available at that time, it seemed best to copy them exactly, even though the British value for "proof spirit" should be given in it. Nevertheless, a note should have been added, drawing attention to this. According to Hehner's table, calculated mainly upon that of Fownes, the proof spirit of the U. S., defined as having the spec. grav. 0.93353, would contain 50.58 per cent by volume of absolute alcohol; or, to state it differently, proof spirit of the U. S. (containing 50 per cent by volume of absolute alcohol), would have a spec. gr., according to Hehner's tables, of 0.93462, neither of which tallies with the requirements of the U. S. law. This was the reason why the value for the U. S. "proof spirit" was not indicated in the table.

No. 1,296.—**Soda-Mint** (F. F.).

This popular remedy for dyspepsia or heartburn is usually prepared by dissolving

Bicarbonate of sodium . . . 1 oz.
in Peppermint water . . . . . 1 pint,
and filtering.

No. 1,297.—**Theoretical Aids for Compounding Prescriptions** (W. R. S.).

While the practice behind the prescription counter is undoubtedly the best means of acquiring proficiency in the art of preparing prescriptions, provided a well-posted and competent person is in charge of it, who is willing to aid and instruct the beginner, the next best way of acquiring proficiency is a judicious course of reading. Among the works most likely to be useful are: Parrish's "Pharmacy," of which a new edition has appeared only a short time ago; and Proctor's "Lectures on Pharmacy," which, though written for British pharmacists, nevertheless contain a large amount of useful information. If you read German, Hager's "Technik der pharmaceutischen Receptur" will be found extremely valuable. (An interesting extract from the last-named work will be found in this number, see p. 101.)

We could mention many other works, but in none will you be likely to find an answer to *everything* that may puzzle you, or on which you might wish to be posted. Your proper course is to read attentively the best pharmaceutical journals, for instance this present one, and to try and keep yourself posted upon all matters going on in the profession—we mean now scientifically.

Should you come across some item which you desire to have information about, you need only address a note to the Editor of this paper, when your wish will be gratified, as far as possible.

No. 1,298.—**Syrupus Cacao Co.** (D. D.).

There is no standard formula for such a preparation. Each manufacturer may suit his own fancy. As it is used for disguising the taste of quinine, it may be prepared in a manner similar to that of *syrupus caffeæ* of the New York and Brooklyn Formulary, which you probably possess. The formula would then be:

Cacao, roasted, finely ground	8 av. oz.
Sugar	24 av. oz.
Boiling water	q. s.

Upon the cacao, packed tightly in a percolator, pour gradually successive small portions of boiling water, until 16 fluidounces of percolate are obtained. In this dissolve the sugar, without heat, and strain.

The fresher and finer the cacao is, the better will, of course, be the product. We presume that a little vanilla would make the flavor more agreeable.

Probably the very best vehicle for covering the taste of quinine is the *Elixir Taraxaci compositum* of the Formulary quoted above.

No. 1,299.—**Sanitas.**

We had an inquiry recently about an article called "Sanitas oil," used in dentistry. Although we made diligent search and consulted prominent houses we were unable to place it. Perhaps some of our readers have heard of it.

Under the name "Sanitas," an antiseptic liquid was introduced in Europe some years ago, which was said to consist of water in which some peroxide of hydrogen and traces of carbolic acid and of oil of turpentine were dissolved. It was (and is?) prepared, according to Kingzett, by conducting through a series of twenty to thirty earthen vessels, containing 80 gallons of water and 1½ gallons of oil of turpentine, a current of air during a long time (about 300 hours. The current is made to enter the vessels at the point where the two liquids touch each other. The liquid is finally filtered. It is said that meat, fish, and other articles of food treated with "Sanitas" may be preserved fresh for months.

No. 1,300.—**Chemical News** (S.).

This is an old-established and flourishing journal, published in London. Office, 42 Cannon street.

No. 1,301.—**Pharmacy Laws** (S.).

Your query "What other States have passed pharmacy laws similar to that lately passed for Ohio?" is one that cannot be answered point-blank. All pharmacy laws differ more or less from each other, and it would be a tedious task to prepare a synopsis of all those points in which they coincide, and those in which they differ. We think that the best way for you to find an answer to the query would be to consult the annual volumes of the Proceedings of the American Pharmaceutical Association, in which there is a special annual report (since 1871) on Legislation. and in this report copies of all pharmacy laws passed since then are published, namely, those for District of Columbia, Kentucky, Maine, New Jersey, Nova Scotia, Baltimore, San Francisco, South Carolina, New Hampshire, Province of Quebec, St. Louis, Ohio, Rhode Island, Maryland, Pennsylvania, New York City, Kings County (N. Y.), Iowa, Connecticut, Georgia, West Virginia, Wisconsin, Illinois, Missouri, and North Carolina. Some other States, as for instance Delaware and Ohio, have since then passed similar laws. Besides regular "pharmacy" laws, the reports above referred to contain various "poison laws," laws against adulteration of food and drugs, and others affecting pharmacists.

Warner's Safe Kidney and Liver Cure is said to be made after a formula to which the following is a close approximation:

Hepatica (herb). ...	1 ℥
Boiling water	1 pint.

Make an infusion, strain, and dissolve in it:

Extr. of taraxacum.	½ ℥
Nitrate of potassium.	320 grs.

Cool, and add [the following mixture]:

Alcohol.....	2½ fl. oz.
Glycerin	1½ "
Ess. of Gaultheria..	40 drops.
Water, enough to make.....	1 pint.

This formula is furnished by a correspondent of the *Deutsch-Amerikanische Apotheker Zeitung* (in No. 5 of 1884). Since the directions in the last line, to add enough water to make one pint, might be construed to imply that the whole finished mixture is to measure one pint, and this is obviously impossible, we have ventured to add the words in brackets, believing that the author intended to add the pint, resulting from mixing the last four ingredients, to the liquid previously prepared.

Formulæ Wanted.

Correspondents inquire after the composition or formula of:

1. *Griswold's Salve*, which "contains soap and red lead as portion of the constituents."

2. *Oriental Tooth Paste*, such as that made in Manchester, England.

[The attention of correspondents is called to our remarks on page 98 of last number, first column, top.]

NEW PATENTS.

[*Complete specifications and illustrations may be obtained of any one or more of the following patents by sending the number, title, name of patentee, with twenty-five cents for each copy, to the Commissioner of Patents, at Washington, D. C., together with the name and address of the person requesting the same.*]

Triturating Machine. 296,816.—F. A. Boericke and George Goll, Philadelphia, Pa.

Jug-Packing Box. 296,819.—L. H. Bradley, Springfield, Ill.

Capsule Machine. 296,844, 296,845, 296,846, 296,847, 296,848.—John Krehbiel, Detroit, Mich., assignor to the Globe Capsule Co., and H. J. Milburn, same place.

Process of Making Zinc Sulphide and Anhydrous. 296,858.—T. Macfarlane, Montreal, Can., assignor of one-half to A. Ramsay.

Capsule-Stripping Machine. 296,895.—W. A. Tucker, New York, N. Y.

Demijohn or Bottle Safe. 296,903.—I. B. Wollard, San Francisco, assignor to the Oakland Glass Works, Oakland, Cal.

Apparatus for Dispensing and Drawing Liquids. 297,221.—L. Bergen, New York, N. Y.

Cork Screw. 297,232. — T. Curley, Troy, N. Y.

Perfumery Stand. 297,235.—V. Demuth, Brooklyn, N. Y.

Syringe. 297,263.—J. B. Hunt, Delaware, Ohio.

Machine for Moulding Gelatin Capsules. 297,318.—W. A. Tucker, New York, N. Y.

Capsule Machine. 297,380.—J. H. Glover, Detroit, Mich.

Air Medicator and Injector. 297,427.—B. McGregor, Covington, Ky.

Inhaler. 297,769. — J. N. Dodge, Springfield, Mass., assignor of one-half to S. J. Gordon, same place.

Capsule Machine. 297,792. — A. B. Hall, Indianapolis, Ind.

Manufacture of Medicated Lozenges or Tablets. 297,800.—A. W. Holway, Boston, Mass. A tablet or lozenge consisting of sugar, cream of tartar, and acid phosphate.

Surgical Aspirator. 297,989.—C. B. Hardin, Independence, Mo., assignor of two thirds to Jesse W. Clemens and John W. Clemens, same place.

Vessel for Containing Aerated Liquids. 297,992.—J. P. Haskins, Saratoga Springs, N. Y.

Process of Preparing Medical Compounds. 298,000. — H. C. Lawrence, Chicago, Ill. A compound composed of spirit, balsam of tolu, syrup, and water; the method of retaining and blending a maximum amount of tolu by heating the alcohol, then adding the tolu and boiling water, and then clarifying the same with carbonate of lime.

Combined Bottling and Shipping Can. 208,023.—C. R. Peaslee, Louisville, Ky.

Bottling Machine. 298,060.—J. C. Blair, Louisville, Miss.

Machine for Forming Pills. 298,148.—A. H. Wirz, Philadelphia, Pa.

Process of Dissolving Metals in Ammoniacal Solutions. 298,149.—C. R. Alder Wright, England.

Soda Water Apparatus. 298,161.—A. Bertelli, San Francisco, Cal.

Bottle Holder. 208,233.—E. R. Richards, Sheboygan, Wis.

Process of Obtaining Soda. 298,256.—J. Townsend, Glasgow, Scotland.

Machine for Making Pills, Tablets, etc. 298,328.—A. H. Wirz and A. V. W. Rausch, Philadelphia, Pa., said Rausch assignor to said Wirz.

ASSOCIATION AND COLLEGE NOTES.

New York.—The Albany and Greenbush pharmacists held a meeting on April 18th, at which twenty-seven gentlemen were present.

Resolutions were passed, indorsing the Campion plan, and a committee of five was appointed to receive and forward to the proper person, complaint of any party or parties selling listed goods at less than the established rates. The committee appointed were A. B. Huested, H. B. Clement, W. S. Elmendorf, Herman Alsberg, Wm. Palmatier.

The New York Protective Association of Drug Clerks held a meeting at the College of Pharmacy, on the evening of April 25th. The President appointed Mr. M. Rafter to fill the vacancy on the Committee of Relations between Pharmacists and Clerks, and Mr. Henry A. Salmon was elected to the Committee on Pharmaceutical and Scientific Interests in place of Messrs. Chapin and Van Horn, resigned. Mr. Roberts stated that the Board of Pharmacy had for the past two years been taking in fees without knowing whether such action was legal. He also stated that the Pharmacy Law was without effect, as the Penal Code had so changed it as to leave no penalty attached to its violation, and that before any convictions could be obtained a new Pharmacy Law must be passed.

The President, Mr. Roberts, then presented his resignation for immediate action, owing to his no longer being a drug clerk, but at the unanimous request of the meeting he was persuaded to withdraw it. The meeting adjourned to meet Wednesday evening, May 21st.

The druggists of Hudson held a meeting in that city April 25th, and formed a union to include every druggist of Columbia County. The essential features of the constitution and rules of the New York Druggists' Union were adopted.

At the special meeting of the New York German Apothecaries' Society, held May 8th, in Beethoven Hall, it was decided to hold the meetings of the society, hereafter, in Schmenger's Hall, Third avenue, between 16th and 17th streets. Mr. Bischof, on behalf of the Committee on Combustible License, reported that the suit commenced against Mr. Müller had been decided

in his favor, but that the Fire Commissioners had appealed.

Mr. Ruprecht paid a proper tribute to the two deceased members of the society, Messrs. Lehlbach and Hebberling.

The Kings Co. Pharmaceutical Society held its regular monthly meeting at Granada Hall, Brooklyn, May 13th, at 3 P.M.

The New York City and County Pharmacy Bill has been defeated. The Judiciary Committee took the ground that sufficient power was granted by existing laws to successfully conduct prosecutions against violators of the pharmacy laws of 1872, and that if the authorities did not take advantage of that, it was not the fault of the law.

The American Chemical Society held its May conversazione on Friday, May 16th, at the University Building, New York.

The meeting of the State Pharmaceutical Association, for the first time in New York City, will be on the 10th, 11th, and 12th of June, and extensive preparations are being made to render it especially attractive. It is probable that a large proportion of the 600 members will be present, and these, with the pharmacists of the neighborhood, will doubtless make it one of the largest meetings of pharmacists that has been held for some time. Messrs. Gustavus Balser, H. W. Atwood, T. J. McMahan, and W. A. Gellatly are the Committee of Arrangements.

Massachusetts.—The Massachusetts College of Pharmacy held its sixteenth annual commencement exercises in Boston on Friday evening, May 2d. President Henry Canning made the introductory remarks, and was followed by H. Sugden Evans, F.R.S., etc. Prof. Bolles, M.D., delivered the valedictory on the part of the Faculty, and Mr. F. E. Lovell on the part of the students. The following is the list of graduates: W. E. Cates, W. A. Chapin, Charles J. Countie, C. O. Currier, Frank T. Dudley, Daniel Emerson, Chas. H. Goldthwait, G. Y. Hutchins, J. O. Jordan, E. G. W. Kraushaar, F. E. Lovell, C. F. Nixon, W. B. Shaw, Frank O. Warner.

The prize students were: Charles F. Nixon, Frank O. Warner, Fred. E. Lovell, Charles O. Currier. John H. Geer, Ph.G., passed a satisfactory examination in practical and analytical chemistry as an elective.

At the annual meeting of the Alumni Association of the Massachusetts College of Pharmacy, held on the evening of May 4th, the following officers were elected for the ensuing year: Geo. M. Hoyt, *President;* Henry Thacher and Linville H. Smith, *Vice-presidents;* J. H. Greer, *Secretary;* John G. Godding, *Treasurer;* H. K. Appleton, *Auditor.* There will be no meetings during the next eleven months.

The druggists of Fall River have adopted the Campion plan, and from May 5th agree to charge the fixed prices.

The Worcester (Mass.) Pharmaceutical Association, at a special meeting held May 2d, unanimously adopted the following resolutions:

"*Resolved,* That we heartily indorse the Campion plan, and pledge ourselves to sustain the full retail prices fixed by those manufacturers who have adopted said plan, or who shall at any time hereafter adopt the same.

"*Resolved,* That we will encourage the sale of all articles on the Campion list to the exclusion, so far as possible, of the preparations of those manufacturers who are not disposed to help us to obtain a living profit.

"*Resolved,* That we will keep in stock preparations which are not on the Campion list only so far as we are obliged to, and in limited quantities, to meet the current demand."

The State Pharmaceutical Association will hold an exhibition of chemicals, pharmaceutical products, and appliances at its next annual meeting, in Lowell, Wednesday and Thursday, June 4th and 5th. Mr. C. L. Brock is the local secretary.

The Local Committee intend to devote the afternoon of Wednesday to the social relations of the meeting, and every effort will be made to render the occasion an attractive one for those who may be able to attend.

Pennsylvania.—The graduates of the Pittsburgh College of Pharmacy formed an alumni association on March 29th. The following were elected officers: C. H. Beach, *President;* John Wurzell and Samuel McElroy, *Vice-presidents;* A. C. Robertson, *Treasurer;* W. S. Jones, *Recording Secretary;* D. F. Robinson, *Corresponding Secretary;* H. J. McBride, George Fry, J. A. Shafer, and George Haering, *Executive Committee.*

The druggists of Alleghany County, on May 1st, organized a society under the name of "The Alleghany County Retail Druggists' Protective Association." The following were elected officers: G. Eisenbies, *President;* A. H. Wilson and J. P. Urben, *Vice-presidents;* Louis Emanuel, *Secretary;* S. S. Holland, *Treasurer.*

The Dauphin County Pharmaceutical Association, at its annual meeting, held May 13th, elected the following officers: J. H. Boher, *President;* H. D. Dietrich, *Vice-president;* Dr. J. A. Miller, *Secretary;* Dr. G. H. Markley, *Treasurer.* The election of Delegates to the State Pharmaceutical Association resulted in the choice of Dr. G. H. Markley, H. D. Dietrich, and G. A. Gorgas.

Wisconsin.—The State Board of Pharmacy met in regular annual session at the Park Hotel, Madison, Tuesday afternoon, April 22d, at 2 o'clock. The full Board was present. Nineteen applicants presented themselves for examination for certificates to practise pharmacy in the State. The following received full certificates entitling them to practise as proprietors: Harry Enckhausen, Kenosha; L. T. Menke, Beaver Dam; John Rosch, Chicago; Wm. E. Williams, Dodgeville; O. H. Anger, Milwaukee; E. E. Pets, Stoughton; W. C. Draper, Milwaukee; J. M. Evans, M.D., Evansville; C. E. French, Fond du Lac; J. E. Barnstein, Sheboygan; H. H. Myers, New London. The following received second-grade certificates, allowing them to practise as clerks: E. Ramsland, Viroqua; W. H. Aldrich, Baraboo; Charles Wren, Janesville; E. E. Travers, Janesville. Four candidates failed to pass the examination successfully.

At the regular business meeting, a new Board was formed, with the following officers: A. H. Hollister, *President,* Madison; E. B. Heimstreet, *Secretary,* Janesville. The Board then adjourned, to meet at Fond du Lac, June 18th, the examination of applicants for certificates to begin the following day.

The Secretary reported that during the year ending April 1st, 1884, five meetings were held, and eighty-eight applicants were examined. Fifty-four were granted full certificates, twelve minor certificates, and twenty-three were rejected. Thirteen registered. Twelve graduate, twelve minor, and two assistants' certificates were granted. The total number of full certificates in the State is one thousand and sixty-one; minor, forty; assistants', one hundred and ninety-two.

Rhode Island.—At the special meeting of the State Pharmaceutical Association, held at Providence, April 16th, resolutions were passed by those present, agreeing to charge the price fixed by the Campion plan, from April 21st, 1884, on all medicines included on their list, and fifty-two pharmacists personally agreed to the above.

At the special meeting of the same association, held in Providence on Wednesday, April 30th, the following were elected members of the Association: E. W. Barrows, C. A. P. Mason, and George Calder, of Providence; S. F. Fisk, J. H. Pander, and E. H. Gridley, of Pawtucket.

Rhode Island has now a law exempting registered pharmacists and registered assistant pharmacists from serving as jurors.

The Rhode Island Chemists' and Drug Clerks' Association held their annual election at the Society's rooms in Providence on May 13th.

The following were elected for the ensuing year: *President,* E. E. Calder; *Vice-President,* J. D. Paterson; *Secretary,* A. O. Hull; *Treasurer,* H. A. Pearce; *Librarian,* F. H. Wilcox; *Executive Committee,* A. H. Storey, C. L. Angell, A. W. Howe, E. E. Calder, C. A. Glancey; *Auditing Committee,* S. J. Briggs, C. E. Card, F. L. Lothrop; *Library Committee,* J. J. S. Peterson, W. W. Devon, J. A. Reaves. Two new members were elected. The meeting adjourned to Friday, June 6th.

This Association gave their annual supper at the Café St. George, in Providence, on Friday evening, May 2d.

Georgia.—The State Pharmaceutical Association has elected the following officers for the ensuing year: S. C. Durban, *President;* J. M. Standford, S. J. Cassels, and H. K. Main, *Vice-Presidents;* I. Zacharias, *Secretary;* T. E. Massenburg, *Treasurer;* and W. A. Lawless, *Local Secretary.* Delegates to the N. R. D. A. and the A. P. A. are John Ingalls, Macon; J. W. Rankin, Atlanta; J. W. Standford, Cuthbert; I. Zacharias, Columbus; W. A. Taylor, Atlanta.

Indiana.—The annual meeting of the State Pharmaceutical Association was held at Evansville, May 13th. Ex-President G. H. Andrews called the meeting to order.

The officers elected for the ensuing year were as follows:

President, W. L. Johnson, Evansville; *Vice-Presidents,* George Eliel, South Bend; Theo. Gasser, Troy; W. H. Ross, Richmond; *Secretary,* P. R. Perry, Indianapolis; *Treasurer,* Emil Martin, Indianapolis; *Executive Committee,* S. Muhle, Indianapolis; R. C. Smith, Crawfordsville; C. V. Pyle, Warsaw.

Ohio.—The State Board of Pharmacy met at Columbus, April 8th, for the purpose of organizing. Mr. John A. Nipgen, of Chillicothe, was elected *President,* Mr. E. M. Hatton, of Zanesville, *Vice-President,* and Mr. Philip H. Bruck, of Columbus, *Secretary* and *Treasurer.* The above-mentioned, with Mr. F. F. Bower, of Toledo, constitute the Board.

The Secretary is prepared to receive applications for registration from those who are entitled to register without examination. Blank applications will be mailed to any person who will address the Secretary, Mr. P. H. Bruck, No. 24 North High street, Columbus, O., inclosing two-cent stamp.

The State Pharmaceutical Association is to meet on May 27th and 28th, in the Exposition Building of Cleveland. The Local Secretary is Mr. W. J. Martin, Seventh and Elm streets. At this meeting the ratification of the new Pharmacy Law is to be considered.

Virginia.—The Norfolk and Portsmouth Pharmaceutical Association held its regular meeting on Tuesday evening, April 15th.

Resolutions were unanimously adopted, thanking those manufacturers who had agreed upon a plan to protect the

retail dealers, and promising to push the preparations of such manufacturers.

ITEMS.

Mr. John H. Ruckel, of the well-known drug firm of Hall & Ruckel, and later of the firm of Ruckel & Hendel, of New York City, died of typhoid fever on the 17th of April.

Peter Squire, who is best known in this country through his Companion to the British Pharmacopœia, died in London on the 6th of April. The *Chemist and Druggist*, to which we are indebted for the portrait adjoining, says of him:

"Very few of us can recall the days of English pharmacy when 'Peter Squire' was not a representative name among us. He has been a prominent pharmacist for nearly fifty years, and has done so much good work for pharmacy that in our annals he will always be quoted as one among the group of men who revolutionized the business of the chemist and druggist in the nineteenth century.

"Mr. Squire was in his eighty-sixth year when death overtook him. He had worked vigorously in his youth and throughout his prime, and in his later and more restful years he was far from idle. Only last year he worked up a valuable paper on the best method of preserving the fresh-water medusæ found in the *Victoria Regia* tank at the Botanical Garden. A short time previously, in association with Dr. Redwood, he had prepared a report for the committee of the International Pharmaceutical Congress on the proposed International Pharmacopœia. Within the past ten years he had supervised and edited three or more editions of his 'Companion to the Pharmacopœia.'

"Mr. Squire was born in Bedfordshire in 1798; was educated at Apsley School, and at the age of fourteen was apprenticed to a chemist and druggist in Peterborough. Though his hours of work were from 7 A.M. to 11 P.M., he studied botany practically before business began, and acquired a sound knowledge of that science. Going to London, he entered the wholesale house of Wilson, Minshull & Co., and afterwards served with Hodgkinson, Brandram & Stad, acquiring thus a thorough knowledge of drugs. He next lived with Alexander Gardner, and was for a time his partner. Still later he entered the establishment of Beral, of Paris. In 1831 he bought the business of Mr. John Scott, which had already been established for forty years. Here he soon established a reputation by the preparation of a number of finer extracts than had previously been seen in the English drug-trade. His work attracted the notice of Dr. (afterwards Sir James) Clark, who made many visits *incognito* to Mr. Squire's establishment. One day he sent for Mr. Squire and asked about his reputation and previous experience. Soon afterwards Peter Squire received a prescription for the Princess Victoria, and the next year (1836) he was expressly appointed her chemist. On the Queen's accession in 1837, Peter Squire was officially recognized as her Chemist-in-Ordinary.

"Mr. Squire was one of the founders of the Pharmaceutical Society, served for twenty-seven years as an examiner, and was thrice elected president of the society.

"He contrived the apparatus by which ether was first administered in a capital operation in England (by Mr. Liston at University College Hospital).

The Late Peter Squire.

He assisted Drs. Stevens and Marshall Hall in some of their chief medical investigations, and many other scientific men availed themselves of his scientific skill. His 'Companion to the Pharmacopœia' has reached its thirteenth edition, and he was also the author of 'Three Pharmacopœias Compared' and 'The Pharmacopœia of the London Hospitals.'

"He leaves a widow and daughter and four sons who are well known in medicine and pharmacy, Mr. William S. Squire, A. J. Balmanno Squire, M.B., and Messrs. P. W. and A. H. Squire, the latter being his successors in the Oxford street business."

Awards at the Calcutta Exhibition.—We find in the list of prizes awarded at the late exhibition at Calcutta, the following of local interest:

First-class Certificate and Gold Medal, to Maltine Manufacturing Co. for Maltine and various preparations thereof, beef peptonoids, etc.

First Certificate and Silver Medal, to McKesson & Robbins, for capsule pills; Professor J. P. Remington, Philadelphia, for pharmaceutical still.

Second Certificate and Bronze Medal, to John Wyeth & Bro. for dialyzed iron, hypodermic tablets, compound tablets, etc.; Enterprise Manufacturing Co., Philadelphia, for Enterprise Tincture Press.

Third Certificate to Fellows' Medical Manufacturing Co. for Fellows' Syrup of the Hypophosphites.

Fourth Certificate to Lanman & Kemp, for sarsaparilla.

Fifth Certificate for Horsford's Acid Phosphates; Dr. Ayer & Co. for sarsaparilla; and to C. A. Vogeler & Co. for St. Jacob's Oil.

Jean Baptiste Dumas, the eminent French chemist, died at Cannes on Good Friday morning, in his 84th year. He was a native of Alais, in the Department of Gard, and was originally the pupil of a pharmacien at Geneva. His chemical work has been public ever since he was eighteen, and after coming to Paris in 1821, his career has been a glorious one. Scientifically, he was for a time Louis Napoleon's Minister of Commerce, was a Senator, permanent Secretary of the Academy of Sciences, and the successor of Guizot at the French Academy. He presided over the Commission which produced the Codex of 1866, and for many years he and Liebig rivalled each other in their important discoveries tending to develop the science of organic chemistry. Pasteur was a pupil of Dumas. In 1869, he delivered an eloquent eulogy at the Royal Institution, London, on "Faraday."

Japanese Paper Towels are being used for surgical purposes in one of the Philadelphia dispensaries. They are also known as Japanese napkins, and only cost about 75 cents a hundred. After being used they are, of course, thrown away, and the expense of the laundry saved. Another advantage is, that there is no danger from the introduction of septic or infectious matter into wounds, as often results from the employment of sponges and linen towels which have been previously used.—*Canad. Pharm. Journ.*

A patent medicine manufacturer died in New York last week. Before he died his friends asked him how he would like to be buried. He had just strength left to say: "Insert me top column next to reading matter fifty-two times, electro by mail," and then he closed his eyes and passed away to that bourne where there are no omissions or wrong insertions.

PHARMACEUTICAL CALENDAR.—JUNE.

Additions to and Corrections of the following Calendar are solicited.

Date.	Society Meetings.	Date.	Society Meetings.
Mon. 2d.	Erie Co. (N. Y.) Pharm. Assoc.—Buffalo.	Wed. 11th.	New York State Pharm. Assoc.
	N. Y. Col. of Pharm. Election of Board of Pharm.—N. Y.		New York Board of Parm.—N. Y.
	Massachusetts Col. of Pharm. An. M.—B'st'n.		Kansas Pharm. Assoc.–An. M., Leavenworth.
Tues. 3d.	Kings Co. (N. Y.) Pharm. Assoc.—Brooklyn.		New York Col. of Pharm.—Alumni Assoc. M.
	St. Joseph (Mo.) Pharm. Assoc.		Toledo (Ohio) Assoc.—Toledo.
	Pennsylvania Pharm. Assoc. An. Meeting, at Wilkesbarre.	Thurs. 12th.	New York State Pharm. Assoc.
Wed. 4th.	Massachusetts Pharm. Assoc. An. Meeting, at Lowell.		Newark (N. J.) Pharm. Assoc.—Newark.
	Indianapolis (Ind.) Pharm. Assoc.—Indianap.		Philadelphia (Pa.) Col. of Pharm.—Alumni Ph. Meet.
Thurs. 5th.	Louisville (Ky.) Coll. of Pharm.—Pharm M.		Maryland Col. Pharm.—Baltimore.
Fri. 6th.	American Chemical Soc.—New York.		New York Germ. Apoth. Assoc.—Meet.
	Rhode Island Chem. and Drug Clerks' Assoc.—Providence.		Lancaster Co. (Pa.) Pharm. Assoc.—Meet.
Tues. 10th.	New York State Pharm. Assoc. An. Meeting, at the Col. of Pharm. of the City of N. Y.	Tues. 17h.	St. Joseph (Mo.) Pharm. Assoc.—Meet.
	Missouri State Pharm Assoc.—Brownsville.	Thurs. 19th.	St. Louis Col. Pharm.—Meet. and Alumni M.
	West Virginia State Pharm. Assoc.—Charleston.		New York Col. of Pharm.—Quart. M.
		Mon. 23d.	Philadelphia Coll. Pharm.—Stated M.
		Tues. 24th.	Boston (Mass.) Druggists' Assoc.—Meet.
		Thurs. 26th.	Kings Co. (N. Y.) Board Pharm.—Brooklyn.
		Fri. 27th.	Albany Co. (N. Y.) Pharm. Assoc.—Albany.